SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF SAN FRANCISCO

DEWAYNE JOHNSON,

Plaintiff,

vs. Case No. CGC-16-550128

MONSANTO COMPANY, et al.,

Defendants.

_____/

Proceedings held on Friday, July 27, 2018, Volume 18, Afternoon Session, before the Honorable Suzanne R. Bolanos, at 1:26 p.m.

REPORTED BY:

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Pages 3944 - 4021

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Volume 18

Afternoon Session

San Francisco, California

Department 504

Judge Suzanne Ramos Bolanos

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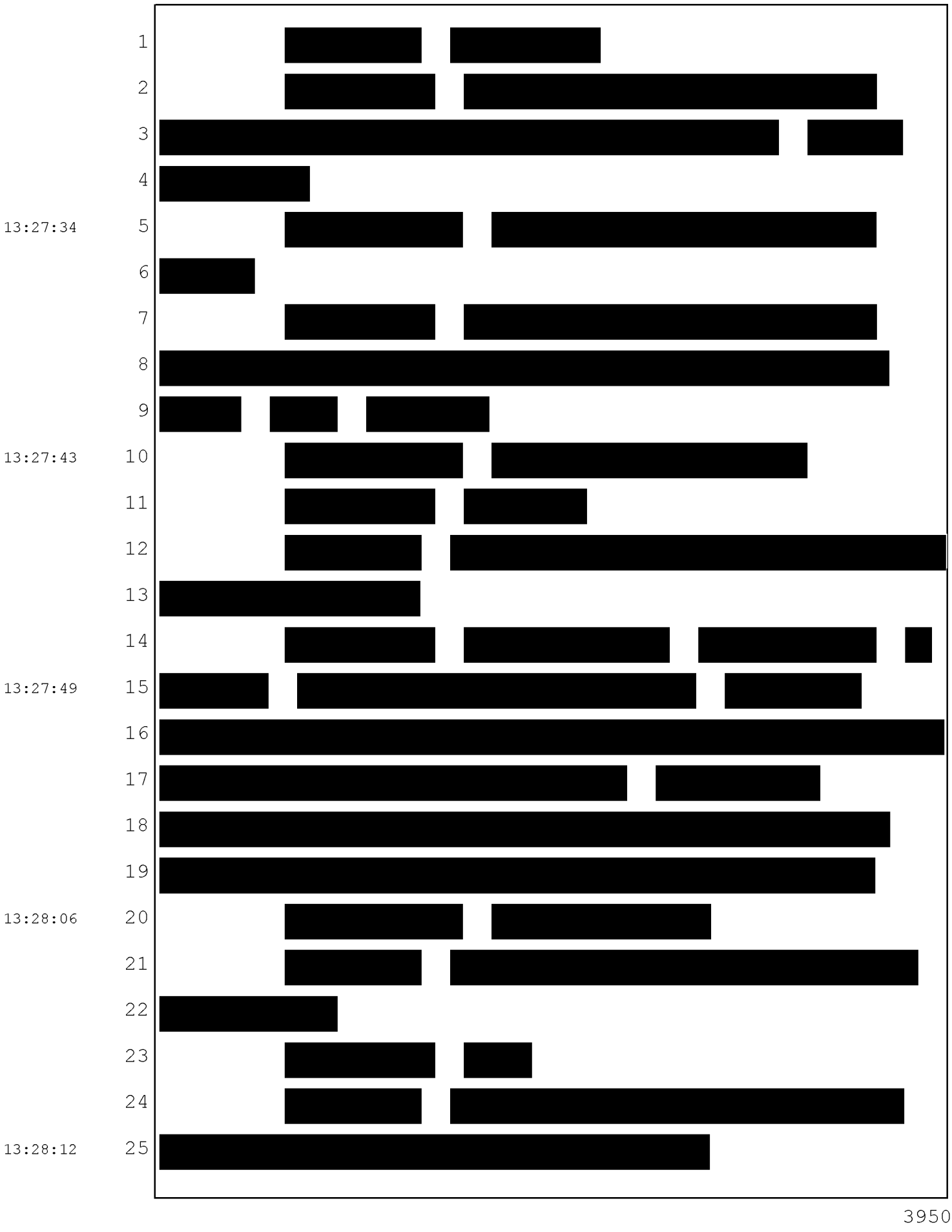
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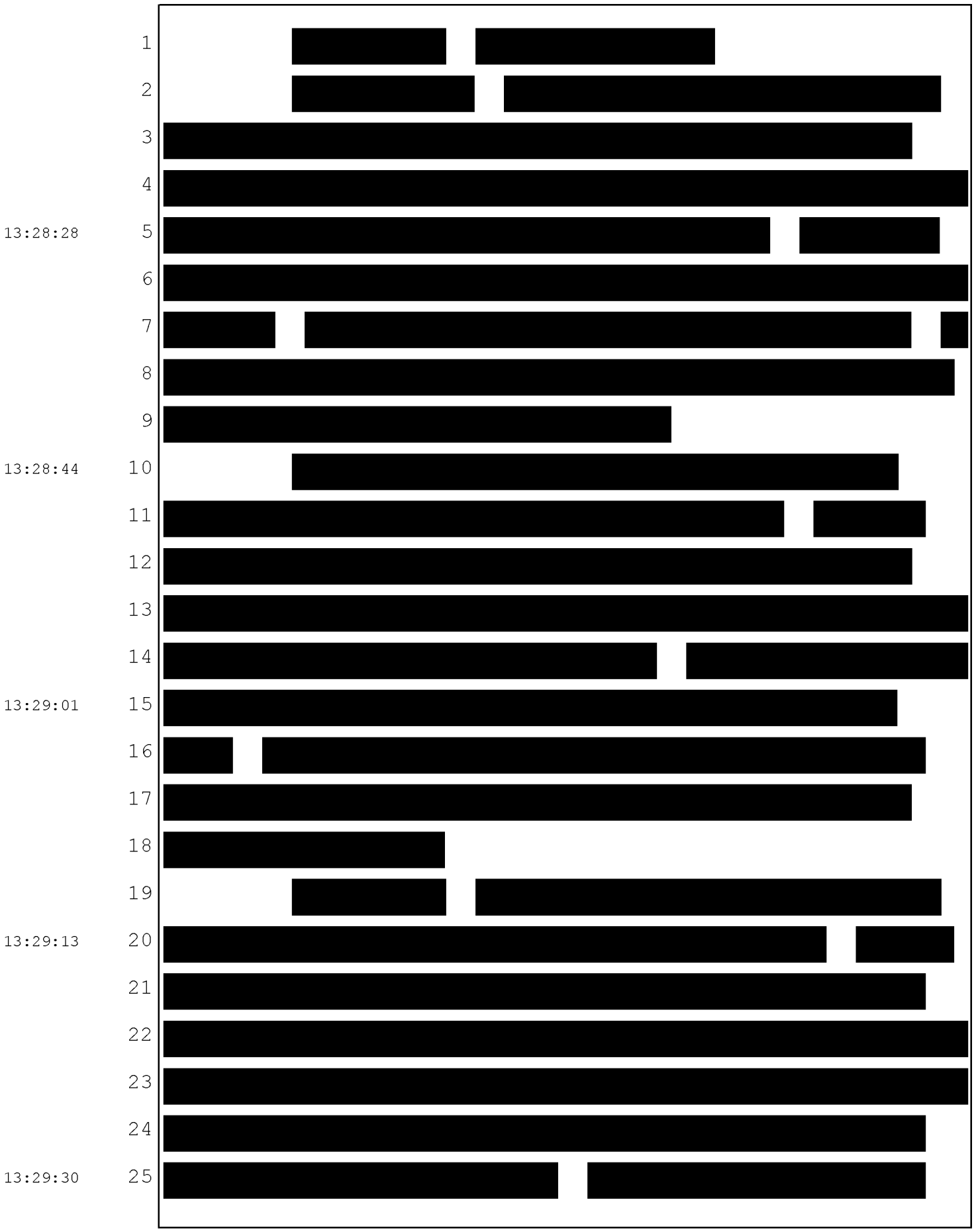
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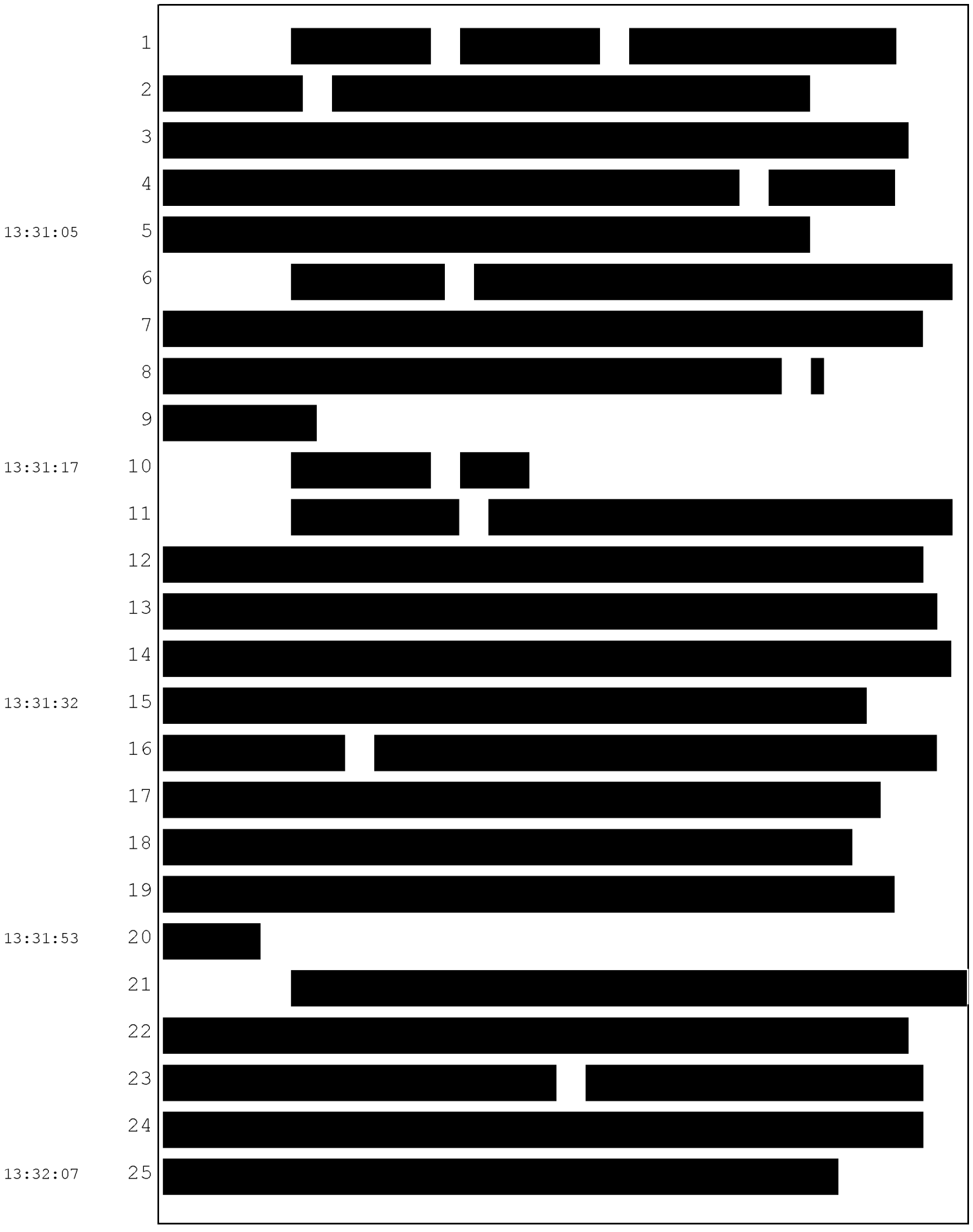
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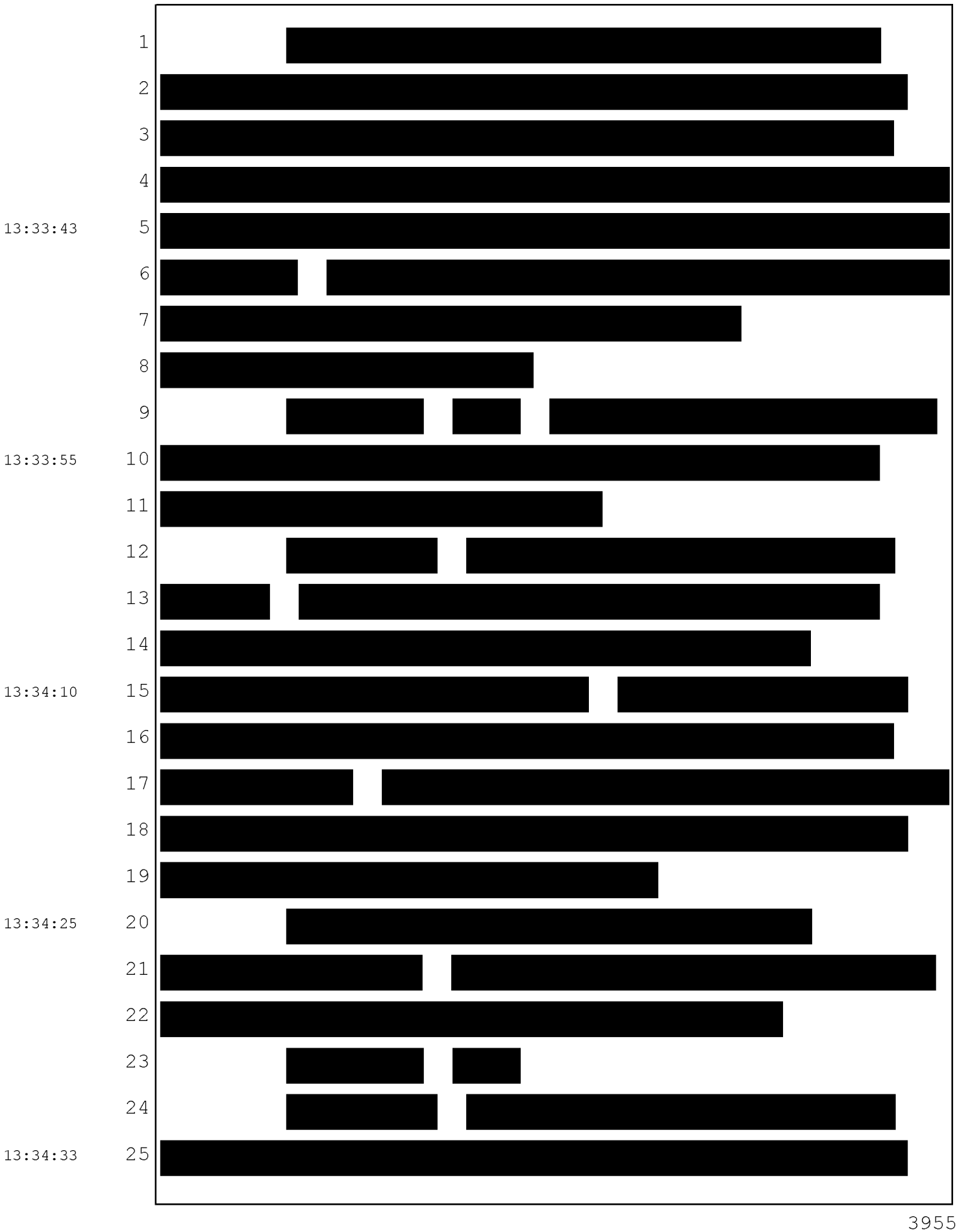
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(Jury enters courtroom.)

THE COURT: Welcome back, Ladies and Gentlemen. Dr. Benbrook remains under oath.

And, Mr. Wisner, you may proceed.

13:40:44 MR. WISNER: Thank you, your Honor.

DIRECT EXAMINATION (Continued)

BY MR. WISNER:

Q. Dr. Benbrook, did you have a good lunch?

13:40:49 A. Yes, sir, thanks.

Q. Good. I actually have just a few last questions. I just wanted to ask you before we pass you on over to the defendants -- to the defendant. Sorry.

A. Okay.

13:40:59 Q. The first question is -- we'll get to this board in one second. The first question is -- relates to -- I actually asked you a question earlier. I said, "Are there reporting requirements under FIFRA?"

Do you remember that?

13:41:13 A. Yes.

Q. And then I didn't ask you what the timing was for that requirement, and I forgot to ask you that follow-up question.

What is the timing requirements on?

13:41:21 A. The timing requirements vary somewhat based on the type of information. But in the case of a pesticide poisoning or a pesticide health episode where someone suffers some harm, has to go see a doctor, is diagnosed with some health problem that they think might be related 13:41:43 to exposure to the pesticide, in that case, it's 30 days. In other cases where there's a lot of similar reports coming in, the regulations allow the registrant the group several of them together and report them every 60 days. It depends kind of how serious and credible and directly 13:42:07 relevant to human health the information is.

Q. And, Doctor, I didn't get a chance to ask you about this before which is why I'm bringing it up now. Why does the EPA collect adverse events? What's the theory behind that in the statute?

13:42:22 A. Well, the EPA understands that it's not perfect, it's not God, it can't foresee every possible problem that might arise from the way that people end up using pesticides, even in -- consistent with the label. So they -- they want to be kept abreast of any new

13:42:44 information that will help them produce a more accurate risk assessment so that they can work with the registrant to make sure that the labels have instructions and warnings and guidance that will prevent high level, or excessive, exposures.

13:43:03 Q. Thank you, Doctor. Now, going back to this chart. This is where we were just before lunch and we discussed you know this dramatic shift in the use of Roundup in agriculture just in the United States. One question I kind of wanted to explore quickly is: Around

13:43:20 this time, in 1999 and 2001, was there other consensus within the scientific community about whether or not glyphosate, or Roundup, was genotoxic?

A. That's about the time period when several peer-reviewed papers had come out using a variety of the

13:43:46 different genotox assays. Certainly by 2001 there were

several, and by 2005 there were a boat load.

Q. But in 2000, this time period, did the scientific community think oh, yeah, it's genotoxic or was it still sort of in the air?

13:44:05 A. Well --

MR. GRIFFIS: Your Honor, objection.

THE WITNESS: If scientists --

THE COURT: Sustained.

Q. BY MR. WISNER: Okay. Doctor, between 1999 and 13:44:11 2001, just when it looks like Roundup, or glyphosate, was becoming the number one pesticide in the world, that's when Dr. Parry issued his report; right?

A. Correct.

MR. WISNER: No further questions.

13:44:25 THE COURT: Thank you.

Mr. Griffis.

MR. GRIFFIS: Yes, your Honor. I will need a couple minutes.

THE COURT: Very well.

13:44:32

CROSS-EXAMINATION

BY MR. GRIFFIS:

Q. Okay, sir. Good afternoon.

A. Hi.

13:46:47 Q. My name's Kirby Griffis. We met very briefly in

the hallway, but not otherwise; is that right?

A. Yes.

Q. I'm going to be talking you briefly this afternoon, more briefly than Mr. Wisner did this morning and afternoon, sir.

13:47:02

The glyphosate dossier, what does the "glyphosate dossier" mean?

A. That's a term that's used in European regulatory circles. It's the regulatory file, the risk assessment file, the body of knowledge on glyphosate and glyphosate-based herbicides.

13:47:15

Q. And it is an exceptionally large dossier; correct?

A. Yes.

Q. And just to register a pesticide in the United States, you were talking to Mr. Wisner earlier about some of the categories of studies that are done. There are acute toxicity studies of various sorts, there are the chronic long-term studies that are used to assess carcinogenicity, and there are many other studies. There's a total of about 120 different studies that are required to register a herbicide in the US; right?

13:47:24

13:47:42

A. That's very close to the total, yes.

Q. And one reason for the size of the overall glyphosate dossier is that it's not just Monsanto that

13:47:57

has submitted the regulatory required studies, it's other applicants as well; right?

A. Yes.

Q. And it's also been a herbicide of great interest and other people have done their own studies, too, right?

13:48:09

A. In the scientific community and other registrants, yes. Many different sources of science.

Q. Now, the EPA and other regulators don't review the safety of the product one time; they do periodic re-reviews; right?

13:48:30

A. Correct.

Q. And in the US, the EPA's latest re-review started in about 2009; right?

A. Correct.

13:48:37

Q. So from 2009 through the entire period that Mr. Johnson was using glyphosate through about 2016, there was a re-review process going on and there was a report issued by the Office of Pesticide Programs in 2016; right?

13:48:56

A. Yes.

Q. And then there was another one. They said some comments, and there was another one this 2017 as well; right?

A. Correct.

13:49:03

Q. It was rather similar to the 2016 one, but did

include some additional information; right?

A. I would agree with that, yes.

Q. These reviews obviously take years to complete. This one started in 2009, went to 2016, 2017; right?

13:49:22 A. They can take years, yes.

Q. And they look at the preceding science. They look at the science that existed in the past, they look at the science that exists when they start the review and they don't stop. They keep looking at the science as it

13:49:38 comes in; right?

A. When they're engaged in a re-registration review or a possible cancelation and they're actually updating their risk assessment, they would look at everything new that's come in, yes.

13:49:53 Q. So one little example of that is -- maybe not a little example is that when IARC came out with its assessment, that's something that the EPA assessed and looked at; right?

A. Oh, most definitely.

13:50:05 Q. And other regulators around the world also did that; right?

A. Yes, sir.

Q. Other national and international regulators did so; true?

13:50:13 A. Yes.

Q. Okay. So these reviews are an assessment. The EPA review -- let's talk about the EPA review. The EPA review was an assessment of the state of the science as the EPA views what counts as science, of course, from the period 2009 to 2016 and also looking backwards; right?

A. When they did this most recent review; correct.

Q. The EPA has on staff toxicologists, experts on science that we've heard described here as mechanism, they have epidemiologists, they have pathologists. They have all sorts of scientific experts on staff; correct?

A. Yes, sir.

Q. And one of the areas of evidence that they look at is epidemiology, including all the epidemiology we've heard about in this trial; right?

A. They certainly look at several epidemiology studies, yeah.

Q. Are you saying that there are any epidemiology studies that EPA didn't look at?

A. There could have been epidemiology studies in Japan in Japanese or in China.

Q. You don't have anything in particular in mind?

A. No.

Q. Okay?

A. I don't, but I also know that there's a lot of science going on around the world, and it wouldn't

surprise me if any of the regulatory agencies didn't know about all of it.

Q. Okay. Now, epidemiology, of course, is inherently about occupational exposure or some other kind of real world exposure to formulated product; right?

13:51:45

A. Well, epidemiology is an attempt in real world scenarios to explore whether there's any linkages between some adverse health outcome and exposures to something. So it could be -- epidemiology could be done on the general public, based on exposures in drinking water or food or it could be done on applicators. It could be done on people that work in factories. There's several different co- -- we use the word "cohort" that are explored in epidemiology.

13:52:08

Q. Okay. Sir, the epidemiology studies that we've been talking about in this trial that you talked about at some length in your expert report and so on, those are occupational exposure studies; right?

13:52:25

A. Well, the-- several of the studies just went to a cancer registry and pulled out all of the positive cases for non-Hodgkin's lymphoma without any other knowledge about the individuals that have the disease and then, through some sort of a survey, found out about the pesticide use. So you can do -- I mean, Agricultural Health Study is an example of an epidemiology study that

13:52:44

13:53:03

actually targeted certified pesticide applicators, but there are other epidemiology studies that don't do that.

Q. Well, perhaps I'm being too technical here. What I mean by that is the people who were counted as exposed in those studies are people who were spraying pesticides --

A. Correct, if that was your question.

Q. -- not getting it through drinking water or getting it dropped on them from the sky or something like that. They were pesticide sprayers one way or another; right?

A. Yes, sir.

Q. Okay. The regulators like EPA look at not just epidemiology, but also the animal studies; right?

A. Correct.

Q. And then the third major category of science that they look at are mechanistic studies; right?

A. Yes. Correct.

Q. And the regulators don't just look at the EPA, European regulators, et cetera, don't just look at the published literature like IARC does. They also look at the registration studies, things that have been submitted by the manufacturers; right?

A. And they predominantly base their reviews on the registrant-submitted studies, yes.

Q. We've hear some testimony from Dr. Portier that there's kind of several levels of registrant information. There is -- you can get summaries from EPA. That's what IARC does. They look at EPA reports and reports from some of the European regulators as well, summarizing what the registrants did and they rely on that, to some extent, in reaching their decisions; right?

A. In general, they -- if -- IARC will look at a study if there's enough information in the peer-reviewed literature describing the methods and the way the study was conducted for them to make this qualitative evaluation the strength of the study. If the -- if there's just a short summary of what the study found but not any details on how it was conducted, they generally -- IARC would generally not include it among the studies that they give weight to.

Q. Here's what I mean. When Mr. Wisner put up on the Elmo the little section on animal studies from IARC and he was pointing to EPA, EPA, EPA, this is information that IARC was getting from EPA publications. It was their recounting of what had happened; right?

A. I'm sure the EPA publications were one source of the information on that body of 12 or 14, you know, mouse and rat oncogenicity studies, yeah.

Q. And then another layer of information about

animal studies would be the data tables from the study reports, and that would be, for example, what was attached to the Greim article; right?

A. Correct.

13:55:53 Q. The tables there? And you know that Dr. Portier testified that he spent six months digging into those and isn't done?

A. Yes. I'm generally aware of what he did, yes.

Q. And then another layer beyond that which is

13:56:06 accessible to the regulators, but not to Dr. Portier and others, is the animal level data which would be -- I couldn't tell you how high, but a lot higher than the stack of the --

A. Yes indeed.

13:56:17 Q. -- data tables; right?

A. Yes indeed.

Q. And the animal-level data would be the actual data that's collected on each animal, precisely what happened to that animal, when it happened, its feeding

13:56:29 history, et cetera; right?

A. Correct.

Q. Data.

I'd like to talk about some of the tools that EPA uses to manage these studies that are being done out

13:56:42 in the world for registration purposes, and I'd like to

talk about good laboratory practices. Good laboratory practices is a set of standards that's been around for 30 years or so, and it regulates all aspects of how studies are conducted in laboratories that are subject to GLP; right?

13:57:05

A. Correct.

Q. They're regulations about how the amounts are housed, about how many animals are used, about how data is collected, about where the entrances and exits are and how many there are and that you have to have a separate door for entering and exiting. And I believe Dr. Portier told us all sorts of details about the lab; right?

13:57:19

A. Yes.

Q. And the EPA can audit the GLP labs to make sure they're in compliance with those rules about entrances and exits, but also perhaps, more importantly, data collection. They can audit the data and compare the data that's kept in the lab notebooks and computer with the data that was submitted to them to make sure that it matches up. They can do all that; right?

13:57:34

13:57:51

A. They can do that, yes.

Q. And you know that they have done that to Monsanto? For example, the 1390 rat study that was up on the board -- up on the display that was shown to you earlier, that was audited; right?

13:58:02

A. I do recall some mention of that in the record, yes.

Q. Now, long-term carcinogenicity testing, that is -- would the -- we've been talking about the animal studies. There are animal studies for other purposes, but the animal studies that were up on the boards, the rat and mouse studies, those are long-term animal studies; right?

A. Yes.

Q. And they're used for carcinogenicity purposes?

A. Yes. They're for that purpose, yes.

Q. And they're currently -- EPA and others consider there are 12 or 14, depending on who you talk to, good studies that they look to regularly when they're making their analyses; is that right?

A. Correct.

Q. And those come from multiple registrants; right?

A. Correct.

Q. Now, the third category "Mechanism," this is the testing at the cellular level or even smaller level to assess whether there may be a pathway by which a chemical could cause cancer; correct?

A. Yes, sir.

Q. And on the subject of that, would you turn please to 2482.

A. Is that in one of the binders?

Q. Yes.

A. Which one?

Q. Volume 1, towards the back.

13:59:39 A. 2482.

Q. 2482?

A. Okay. Got it.

Q. 2482 is the 2016 Office of Pesticide Program's report from the EPA; right?

13:59:55 A. Yes, sir.

Q. The OPP report has data tables in it which you have looked at; correct?

A. In detail, yes.

Q. And those data tables --

14:00:07 And this is something that Dr. Portier and I got to look at and the rest of the courtroom didn't, but you've seen them yourself?

A. Yes.

Q. -- and they set forth -- first, there are a 14:00:18 bunch of data tables that set forth, starting on page 100, in the various categories that EPA considers for mechanism studies all the studies that they looked at for glyphosate?

A. Correct. Starting with the bacterial reverse 14:00:37 mutation studies.

Q. The bacterial reverse mutation studies or the Ames test; right?

A. Sure.

Q. And then there's another set of tables towards the pack of the 2016 OPP report for similar tests in all those same categories on formulated product; right?

A. It's actually an appendix, but yeah, there's a table.

Q. There's a set of tables? Like, there's one for the --

A. Sure.

Q. -- reverse bacterial or Ames test --

A. Right.

Q. -- one for the *in vitro* mammalian test, et cetera.

You know also that the OPP 2016 report and also OPP in 2017 set forth a list of studies that they considered to be of low quality on the subject of genotoxicity; correct?

A. Could you be a little more specific? You know, these are very big reports. The genotox section in 2482 is 80 or 90 pages. It's kind of hard to answer your question.

Q. Take a look at page 196 of the report, please.

A. Okay. 196 of 227, Appendix D?

Q. Are you at 196, sir?

A. Pardon me?

Q. Are you at page 196?

A. Yeah, 196.

14:02:20 Q. Okay. Page 196, it says "Appendix D, List of Studies Assigned a Low Quality Ranking and Not Evaluated in Detail"; correct?

A. Yes. That's what the title says.

Q. And it gives some reasons for why studies were 14:02:47 assigned a low quality ranking and not evaluated in detail; correct?

A. Yes.

Q. And it includes a list of studies, and it includes Bolognesi 2009 and Paz-y-Mino 2007, which the 14:02:59 jury has heard about, as studies of aerial spraying in Columbia; correct?

A. Yes.

Q. Or in Ecuador at the border of Columbia, actually.

14:03:21 I'd like to talk to you a little bit about the questions you were asked with the IARC Monograph up about the entry of a mouse study from 1983, sir.

A. Sure.

Q. The interactions between the EPA and Monsanto 14:03:39 over that mouse study from 1983 were all before EPA had a

wealth of animal studies to rely on; right? At the time there was a 1983 study; right?

A. Well, yeah. I think the interactions between EPA and Monsanto on that particular mouse study probably will go on forever, but over the -- over the years there were these additional studies that were submitted by other registrants.

Q. Now they've got a lot of studies to rely on in making their evaluation --

A. Right.

Q. -- And to assess things like consistency across studies and whether a tumor that they think that they saw in one study shows up in other studies in the same species and other things that they consider in assessing animal studies; fair?

A. Fair enough, yeah.

Q. And what -- you said that for a while EPA classified glyphosate as Class C -- they classified it as a Class C oncogene; correct?

A. Correct.

Q. An oncogene is something that can produce tumors that might be benign or malignant as opposed to a carcinogen which produces malignant tumors?

A. Yeah.

Q. And perhaps the reason they use the term

"oncogene" is that the renal tubule adenomas are a benign tumor; right?

A. That was part of their cancer evaluation guidelines. So they -- they didn't create a new set of guidelines just for that study. That's the terminology that they used --

Q. Okay.

A. -- at the time.

Q. All right. We've been talking a little bit about the approval process for glyphosate. The EPA has also approved all of the surfactants used in glyphosate-based herbicides; correct?

A. Well, they -- they could take a number of different actions. There's a list of, sort of, generally recognized, to say, for acceptable inert ingredients that has evolved through many iterations since the early 1980s, when most of glyphosate labels were being approved, and there's actually been some -- some tolerance-like petitions on some of the surfactants, and others have been -- the EPA grants what's called an exemption from the requirement for a tolerance, which kind of is like a pass.

Q. Would you turn to 2436 in your binder, sir? This is Volume 1, again.

A. I'm there, sir.

Q. Okay. This is an EPA document that would be a little bit baffling to someone who hadn't seen it before, but you have seen it before; right?

A. Yes, sir.

14:07:00 Q. And it is -- well, it would have been baffling to me. Maybe not you the first time.

It says, "Subject: Alkyl Amine Polyalkoxylates (JITF CST 4 Inert Ingredients)." And this is a Human Health Risk Assessment to Support Proposed Exemption from

14:07:18 the Requirement of a Tolerance When Used as Inert Ingredients in Pesticide Formulations. It's an EPA document from April 3, 2009; right?

A. Correct.

Q. Now, EPA classifies surfactant -- this is a

14:07:31 surfactant --

A. Document.

Q. -- assessment document; right?

A. Yeah.

Q. And EPA classified surfactants into clusters;

14:07:38 right?

A. When they're chemically related, yes.

Q. So this is Cluster 4, and it's a cluster that includes POEA?

A. Correct.

14:07:46 Q. The specific surfactant we've been talking

about --

A. I'm sure.

Q. -- that's glyphosate-based herbicides --

A. Yes.

14:07:57 Q. -- including Roundup and Ranger Pro?

Would you turn to page 10?

A. Of this document?

Q. Of this document, yes.

A. Okay, sir. I'm there.

14:08:27 Q. Okay. Under Section 4.1.1 of this surfactant approval document, there are a number -- it says, "Database summary -- 4.1.1, database summary," and there are a number of studies described here; correct?

A. Yes.

14:08:45 Q. And they're with regards to particular formulations, like MON 0818, MON 8109. Those are Monsanto formulations; right?

A. I believe they're Monsanto numbers that are either referring to the surfactants themselves or a

14:09:06 formulated product that includes the surfactants.

Q. Okay.

A. It's very hard to know what those numbers refer to. It's hard to get that information.

Q. Whichever it is, there's two Monsanto ones and

14:09:17 then two from other companies; correct?

A. ATMER and Armoblen, yep.

Q. And under -- among the genotoxicity studies listed here are Ames -- I'm looking under MON 0818. We've talked about the Ames test; right?

14:09:35 A. Yes.

Q. *In vivo* mouse micronuclei assay; correct?

A. Correct.

Q. And then there are some -- there's a four-week rat study, a three-month rat study. Under ATMER, there's

14:09:49 Ames *in vitro* human peripheral lymphocyte cytogenic assay, *in vitro* mouse lymphoma mutation assay, then two 3-month studies; right?

A. Correct.

Q. And under Armoblen, there's an Ames; correct?

14:10:03 A. This 5571?

Q. Yes, sir.

A. Yeah.

Q. Then on the next page, page 11 of 94 of this document, sir, Exhibit 2436, the second paragraph talks

14:10:21 about the available mammalian toxicity database, including acute subchronic developmental reproductive toxicity studies via the oral route as well as mutagenicity data for the four compounds.

What's "mutagenicity data," please?

14:10:38 A. Well, the -- it would fall within the category

of genotoxicity studies trying to determine whether there's an impact on DNA.

Q. And what is ToxSAC, T-O-X-S-A-C?

A. I'm not sure.

14:10:55 Q. Okay.

A. It's probably part of HED. Yeah, it's a toxicology science advisory committee of HED.

Q. Okay. So the toxicology science advisory committee with responsibility for this document?

14:11:06 A. Yeah.

Q. It says, "While there is no chronic toxicity study, the ToxSAC noted that the effects do not increase in severity over time (4 weeks to 13 weeks). Based on the lack of progression of severity of effects with time, 14:11:19 along with the considerable similarities of effects across the species tested and the observation that the vast majority of the effects observed were related to local irritation and corrosive effects, the ToxSAC concluded the chronic studies would not be required"; 14:11:36 correct?

A. That's correctly read, yes, sir.

Q. Now, you'd agree, sir, that IARC, in making it's determination of a hazard assessment, does not do a real-world risk assessment; right?

14:11:50 A. It doesn't go out and collect the exposure data

or cases with particular adverse health, no. It draws upon studies published in the peer-reviewed literature.

Q. You still have the binder with plaintiff's exhibits in it, sir?

14:12:09 A. Yes.

Q. Okay. Would you get that, please, and look at --

A. Is this the one I was given initially? Yeah, I have it.

14:12:15 Q. I hope so.

And let's look at Exhibit 169, which is also labeled Tab 169, the second tab in there.

A. Yes.

Q. That's the IARC Monograph; right?

14:12:33 A. Correct.

Q. Would you turn to page 75?

What we have here -- section -- this is in Section 5 of the whole Monograph, and Section 5 is towards the end. It's called "Summary of Data Reported," 14:12:56 and they summarize the important aspects of the data that's reported at more length in the earlier sections, one of which is devoted to each of the major areas of investigation; is that fair?

A. Yes, sir.

14:13:09 Q. Okay. And there's two paragraphs on exposure

data under 5.1, and what they say at the top of the second paragraph is there is little information available on occupational or community exposure to glyphosate; right?

14:13:24 A. That's what they say, yes.

Q. The EPA has a lot more than "little information available"; right? This data all came from EPA on --

A. The study you stated --

Q. -- the issue of exposure.

14:13:44 A. -- was put out by the EPA report.

Q. EPA has massive information on exposure; correct?

A. It's -- there's a tremendous amount of science that has to be done to translate from changes in the

14:13:59 volume of glyphosate applied by farmers to actual exposure levels to people. There's a huge number of steps in there.

Q. Oh, yeah. This isn't a bottom-line data sheet on anything but how much is sprayed.

14:14:14 A. Correct.

Q. There's much more that would have to be done to come up with anything like individualized exposure assessments; correct?

A. We wouldn't characterize that as exposure data.

14:14:22 Q. Okay. It's a lot more than is in the IARC

Monograph?

A. Correct.

Q. Are you familiar, sir, with an article by Jose Tarazona, who's the head of the pesticide unit of the European Food Safety Authority?

14:14:37

A. Why don't you show it to me.

Q. Yes, sir. (Indicating.)

MR. GRIFFIS: Hand this to you, your Honor.

THE COURT: Thank you.

14:14:59

Q. BY MR. GRIFFIS: This is an article entitled "Glyphosate Toxicity and Carcinogenicity. A Review of the Scientific Basis of the European Union Assessment and Its Differences with IARC."

A. Yes, sir.

14:15:09

Q. You've seen this before, sir?

A. Yes.

Q. Okay. And this has a tremendous amount of information on it about technical comparisons between IARC and the European Union's assessment, but I would like to just point you to a few things.

14:15:26

First of all, on page 2, in the left-hand column, there is a long paragraph at the bottom of the column stating: "Glyphosate has been the subject of regular assessment by national and international regulatory agencies."

14:15:50

Do you see that?

A. Yes.

Q. And then if you go down a little farther, it says, "However, a recent report from the International Agency for Research on Cancer, IARC, concluded that the herbicide and its formulated products are probably carcinogenic in humans. The aim of IARC's assessments is to identify carcinogenicity hazards as a first step in carcinogenic risk assessment"; correct?

14:15:57

14:16:16

A. Yes, that's what it says.

Q. "IARC assessments do not include recommendations regarding regulatory or legislative decisions. They are scientific evaluations informing regulatory assessment. Consequently, the IARC conclusion triggered a reconsideration of the evidence on carcinogenicity in the EU evaluation and more recently by the joint FAO WHO meeting on pesticide residues."

14:16:32

So this is a legal allusion to the fact that the European regulators, and we've heard that that was EFSA and ECHA, who are the science agencies that report up to the European Commission, which is not a science agency, but makes the decisions, and that there are rapporteur states, and that the Germans, the BfR, are the rapporteur state for this registration review, they were all involved in a re-review process when the IARC decision

14:16:51

14:17:08

came out, and they took it into account in their ongoing assessments; correct?

A. That's correct.

Q. Just like EPA did?

14:17:20 A. Well, yeah.

Q. And the main point of this article, sir, is to compare IARC's evaluation to EFSA's and talk about some reasons that they may have reached different conclusions. If you'll turn to page 3, please, the first column.

14:17:42 MR. WISNER: Your Honor, I'm going to object. It's beyond the scope, and it's cumulative. I don't believe he talked about EFSA at all in his direct.

THE COURT: Well, overruled.

Q. BY MR. GRIFFIS: So the first column, the first

14:17:54 full paragraph, which starts, "IARC and regulatory assessments," and I'd like you to look at the bottom of that paragraph where it says, "Regarding data sources."

Do you see that?

A. So the paragraph begins with, "IARC and

14:18:08 regulatory assessments are usually"?

Q. Usually complimentary, yes.

A. So you want me to go to the bottom of that paragraph?

Q. Right. Starting, "Regarding data sources."

14:18:19 A. Okay. So I just need to skim the whole

paragraph.

Q. Sure.

A. Okay.

Q. Okay. And my question is just about the data sources that IARC considers. "Regarding data sources, IARC assessments are primarily based on published evidence, i.e., scientific publications and regulatory assessments; industry-sponsored studies are used when reviewed and reported in regulatory evaluations, becoming a relevant secondary source for regulated agents such as pesticide." And that's an accurate description of IARC's data sources; right?

14:18:48 14:19:09

A. Said better than I did a while ago.

Q. Okay. And we saw that when we were looking at page 33 of the Monograph, and there were multiple references to EPA?

14:19:22

A. Correct.

Q. And I think one to EFSA, one to some European regulator. Those were instances of IARC saying, "We looked at this regulatory report and relied on what it said about this particular issue that we're referring to here"?

14:19:33

A. Well, certainly there were some regulatory reports that IARC took into account and had access to the sufficient detail on how the study was done for them to

14:19:46

make their, sort of, qualitative assessment, yeah.

Q. And then the next sentence here is, "Both scientific publications and" --

A. I'm sorry, where -- where are you now?

14:19:59 Q. The next sentence after where I was reading, the last sentence in that paragraph.

A. Oh, okay.

Q. "Both scientific publications and mandatory industry-sponsored studies were primary sources in the

14:20:12 EU evaluation."

A. That's what it says.

Q. And that reflects your understanding of the difference in the data sources between the national and international regulators and IARC; correct?

14:20:24 A. I think that in general, the European regulators put more weight and focus on the peer-reviewed publications than EPA, but it's -- certainly both of them relied predominantly on the registrant-sponsored studies.

Q. And they both have both sets of data available

14:20:44 there, the published studies and they have the registrant studies --

A. Correct.

Q. -- and they look at them?

Okay. One last thing from here, sir. Turn to

14:21:02 page 16.

A. Of this paper?

Q. Of this paper.

It says under "Conclusions" --

A. Where the heck are the numbers? Oh, by the Bates Number.

Q. The Bates Number is the best way to do it, yes.

A. Got it, 16.

Q. So "Conclusions" is the main header, and the sub-header is "Evidence on Carcinogenicity in Experimental Animal Models." Okay?

A. Okay. Upper right-hand column.

Q. Upper right-hand column, yes. So they say, "Regarding animal carcinogenicity, three main aspects should be considered for understanding the different conclusions from IARC and EFSA." And the first is, "Lack of consistency among studies on the same species and strain at equivalent doses supported the conclusion of chance results in the EU evaluation"; correct?

A. That's what it says, yes.

Q. And then skipping down a little to "Second" to get the second main aspect to be considered. "Second, the lack of consistency between sexes. According to the UN-GHS criteria, a plausible sex-related mechanism should be investigated in these cases and was not identified in the EU assessment." Meaning you're supposed to find a

plausible sex-related difference to explain differences in the data between the sexes, and they didn't find one; right?

A. It's certainly one of the factors taken into account, yeah.

Q. "Third," down just a little farther, "the role of secondary effect observed at doses with excessive toxicity"; right?

A. Yes.

Q. And what that's referring to -- we won't rehash this at length, but what that's referring to is the general principle in -- with long-term animal studies, that when animals are dosed at levels that make them acutely ill or where the substance is damaging their cells directly, you are no longer measuring very accurately the carcinogenicity of what you're testing, you're measuring something else, and that can skew the results. Is that a fair summary?

A. Yeah, one of the huge debates over several of the oncogenicity studies, which I'm sure the jury's heard a lot about.

Q. Yes, sir. And with regard to that third issue, the role of secondary effects observed at doses with excessive toxicity, Dr. Tarazona goes on to say, "This element is not described in the IARC methodology, and the

IARC Working Group considered as positive trends those triggered by tumor incidents at doses with demonstrated excessive toxicity."

I read that right?

14:23:49 A. Yes, you read it correctly.

Q. Okay. And then he goes on to say, "Regulatory assessments have access to full study reports. For IARC, unpublished industry-sponsored studies are secondary information sources and their use is limited to the study

14:24:05 summaries from previous assessments published by other agencies."

Did I read that correctly?

A. You read that correctly, yeah.

Q. Now, with regard to the secondary sources issue,

14:24:15 do you know that IARC had available to it, because it was published and given to them 30 days before IARC began, the Greim paper with its appendices?

A. Yes. I know that they had the Greim paper.

Q. And you know that they didn't use the Greim

14:24:32 paper and its appendices in their evaluation?

A. That's correct.

MR. GRIFFIS: Thank you, sir. I have no further questions.

THE COURT: Anything further, Mr. Wisner?

14:24:50 MR. WISNER: Yes, your Honor.

REDIRECT EXAMINATION

BY MR. WISNER:

Q. Hi, Doctor. How are you doing?

14:25:02 A. I was looking forward to talking about all this paper. I'm fine.

Q. A lot of it there.

All right. I just wanted to go over some of the issues that were brought up by counsel. Directly brought

14:25:15 up by him.

Now, he specifically addressed that the EPA classified glyphosate as a Class C oncogen. Do you recall that?

A. Yes.

14:25:28 MR. WISNER: Permission to approach the witness, your Honor?

THE COURT: Yes.

MR. WISNER: May the record reflect I'm handing the witness Plaintiff's Exhibit 537 and 591.

14:25:45 Q. Doctor, what are those documents?

A. 537 is the April 3rd, 1985, decision memo on the evaluation of glyphosate oncogenicity. It's, sort of, the formal record in the EPA glyphosate registration file based on the review of the 1983 biodynamics mouse study.

14:26:13 And the other one, 591, is the -- a memo that

codifies the results of an earlier consensus review of glyphosate done on March 4th, so it's about a month earlier by one, two, three, four, five, six -- seven of the EPA statisticians, pathologists, toxicologists that
14:26:43 reviewed the glyphosate cancer database.

Q. And specifically, 591, this is the document you reviewed; correct?

A. Oh, this is a very famous, widely-reviewed document, yes. I've reviewed it many times.

14:26:58 Q. And the class C oncogenicity finding that Mr. Griffis raised, that's what's addressed in this document; right?

A. That's what sets it out, yes.

MR. WISNER: Permission to publish?

14:27:13 MR. GRIFFIS: Sidebar, your Honor.

THE COURT: Yes.

(Sidebar.)

[redacted]

14:27:30 [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

14:27:53 [redacted]

[redacted]

(End sidebar.)

Q. BY MR. WISNER: All right. Doctor, do you have the document in front of you?

A. Yes.

MR. WISNER: Your Honor, do you have a copy?

THE COURT: Yes. Now I do. Thank you.

MR. WISNER: Okay.

14:29:18 Q. So the first page of this document, starting March 4th, 1984.

Do you see that?

A. Yes.

Q. And in here, you mention there's a bunch of

14:29:28 scientists; right?

A. Correct.

Q. They've actual -- their actual signatures are on there; is that right?

A. Yes, sir.

14:29:33 Q. And the subject is: Consensus review of glyphosate; right?

A. Yes.

Q. And if we go into here -- I don't want to spend too much time going through everything it says, but on

14:29:45 the second page, there's a discussion of the various tumors observed and the various doses; right?

A. Correct.

Q. And at the very bottom it says, "This is a rare tumor, even in Charles River CD-1 male mice."

14:29:57 Do you see that?

A. Correct.

Q. And the significance of a rare tumor is that's one of the things the EPA looks for, is the emergence of rare tumors which suggests oncogenicity?

14:30:09 A. Correct.

Q. And I believe they actually give you some historical data here. It says that, "The biodynamics historical data show that this tumor was observed only 3 times in 14 male control groups, ranging in size between

14:30:30 51 and 60 mice."

Do you see that?

A. Yes.

Q. So, I mean, can you do the math quickly on that? What is 14 times 50?

14:30:39 A. 900.

Q. Okay. So they had only ever seen this mice historically and -- mice that were not treated, 3 whole times out of 900 mice; right?

A. Correct.

14:30:51 Q. In here, they found 3 tumors in 50; right?

A. In the high-dose group, correct.

Q. That's just in one study?

A. Correct. One study.

Q. And for the medium-dose group, they found 1 out

14:31:04 of 50 mice; right?

A. Correct.

Q. And that's the significance of rare tumors, because if it's supposed to be, you know, 1 out of 300 and you're seeing 3 out of 50, that raises alarms.

14:31:15 A. Particularly if the incidence of the tumor is in a dose-related way. The number goes up the bigger the dose. That's an important characteristic.

Q. Now, if you look at the last page, the classification of glyphosate. Do you see Section E?

14:31:31 A. Yes. Got it.

Q. And that reads: "In accordance with EPA-proposed guidelines, the panel has classified glyphosate as a category C oncogen"; is that right?

A. Correct.

14:31:46 Q. And this is part of that kidney tumor we were talking about earlier in your direct; is that right?

A. Yes. The renal tubular adenomas.

Q. All right. Great. And in the other document, 537, that's before you, this is an April 3rd, 1985, 14:32:03 document.

Do you see that?

A. Yes.

Q. It's got a lot of writing on it. But the subject is "Glyphosate"; right?

14:32:08 A. Correct.

Q. "Mouse oncogenicity study."

Do you see that?

A. Yes.

Q. And the conclusions are right there at the beginning. Conclusion Number 1, "Glyphosate was oncogenic in male mice, causing renal tubular adenomas, a rare tumor, in a dose-related manner."

Do you see that?

A. Yes.

Q. It doesn't say, "Associated." It actually says, "Causing"; right?

A. Yes.

Q. Okay.

A. In this study.

Q. Yeah. And I understand, Doctor, that there was a re-evaluation done later; right?

A. Well, there was a debate -- ongoing debate about this mouse study.

MR. GRIFFIS: Your Honor, prior rulings.

THE COURT: Mr. Wisner, can you rephrase the question, please?

MR. WISNER: Sure. We don't need to talk about the debate. That's fine.

Q. What I do what to illustrate, though, is -- we read this in the IARC Monograph, but even when they

re-reviewed it, there was a statistically significant trend of carcinomas in the kidneys; right?

A. There was noted in the IARC Working Group report that we were reviewing before lunch.

14:33:27 Q. All right. Now, Mr. Griffis, he talked to you a lot about the data that the EPA gets to see, didn't he?

A. Yes.

Q. And he suggested to the jury that the EPA gets to see all this data that IARC doesn't see. Do you

14:33:39 recall?

A. Yes.

Q. It is fair to say, though, that the EPA only gets to see the data that's actually shared with it; right?

14:33:51 A. Yes.

Q. And they had to go through some tables from a report in 2016. Do you recall that?

A. Yes.

Q. Is Dr. Parry's report in that table?

14:34:00 A. No.

Q. There was also some discussion about good laboratory practices. Do you recall?

A. Yes, sir.

Q. And there's a suggestion that the EPA, they do

14:34:14 audits of these laboratories to make sure they're doing

things right; is that right?

A. Correct.

Q. Isn't it true, Doctor, that the EPA hasn't always been successful?

14:34:24 A. Unfortunately, that's -- that's true.

Q. There have been numerous instances where the EPA missed false data in studies; right?

A. There's certainly been a few quite significant ones that caused some real problems for the EPA and the

14:34:39 registrants.

Q. In fact, that's where good laboratory practices comes from, doesn't it?

MR. GRIFFIS: Objection, your Honor. This is violating one of the motions *in limine*.

14:34:49 THE COURT: He may answer this question.

MR. WISNER: Yeah. I'm not going there.

THE COURT: Okay.

THE WITNESS: Yeah. That's one of the roles of good laboratory practices, so that there's a transparent

14:34:59 substantive set of here's-how-you-do-it rules for the government to audit the quality of science done by contract labs. That's what GLPs are for.

Q. BY MR. WISNER: There was a discussion about EPA having access to all this exposure data. Do you recall

14:35:22 that?

A. Yes.

MR. WISNER: Permission to publish Mr. -- Dr. Benbrook's chart?

THE COURT: Any objection?

14:35:29 MR. GRIFFIS: No.

MR. WISNER: And for the record, it is 1043.

THE COURT: Very well. You may proceed.

Q. BY MR. WISNER: And he showed you this chart that you had put together; right?

14:35:39 A. Correct.

Q. Sir, did you get the data in this chart from a publicly available source?

A. From the EPA.

Q. Yeah, so it would have been accessible to IARC?

14:35:47 A. For sure. IARC had a section on the increasing use of glyphosate-based herbicides that basically has the same numbers.

Q. Okay.

MR. WISNER: Almost through my list here.

14:36:06 Q. There was discussion about EFSA and ECHA. Do you recall that?

A. Yes.

Q. And there was a discussion about how IARC looks at peer-reviewed literature. Do you recall?

14:36:16 A. Yes.

Q. Now, peer review, that's the process where other scientists -- they review other scientists' work; right?

A. Correct.

Q. And they did it in, sort of, a transparent public way?

14:36:26

A. Well, not all journals release the peer reviews of the papers.

Q. Fair enough. I just mean that the research is made available so scientists can critique things; right?

14:36:39

A. The editors pick qualified people in the field and send them the paper and ask them if they feel it's methodologically sound, was the statistical analysis correct, were there confounding factors, and evaluate the quality of the paper.

14:36:51

Q. And, in fact, a lot of the epidemiology studies like this jury's heard about, you know, Monsanto scientists would actually write to the authors and critique the studies, wouldn't they?

A. My --

14:37:02

MR. GRIFFIS: Objection, your Honor. This is in violation of the orders.

THE COURT: Sustained.

Please ask a different question.

Q. BY MR. WISNER: We're talking about published literature here.

14:37:12

A. Correct.

Q. And there's published literature about epidemiology; right?

A. Yes.

14:37:17 Q. And then letters have been sent, you know, saying, "Hey, I disagree with this aspect of the literature." And then those letters are published; right?

A. That's different for peer review. That's

14:37:30 writing a letter to the editor.

Q. I understand. But that happens?

A. Sure.

Q. And that's part of the reason why published literature is so valuable, is it allows this debate of

14:37:37 science to happen that everyone can see.

A. Correct.

Q. And then sometimes, you know, they publish an article, somebody writes a critique or criticism of it, sends it to the editor, and then the authors actually

14:37:50 respond to it. They say, "Actually, you're right," or, "You're wrong." And, "This is what we did." And, "Well, that's a good point. I can think about that." And that's also published; right?

A. Absolutely, yeah.

14:37:59 Q. And researchers like yourself and other

researchers, you look at these back-and-forths to, sort of, appreciate and understand the science; right?

A. Absolutely.

Q. Industry studies, the ones that are just sent to the EPA, no one else sees them. Do they go through that process?

14:38:10

A. No.

Q. Is that why IARC is resident in using that type of study?

A. Did you say, "Reticent"?

14:38:18

Q. Yes.

A. Yes, that's correct.

Q. And I said, "Resident." I apologize.

MR. WISNER: Your Honor, permission to publish the Monograph?

14:38:27

THE COURT: Yes.

MR. WISNER: That's 169.

And I believe this is working. Yes.

Q. All right. There was a discussion about the Greim article. Do you recall that?

14:38:40

A. Yes.

Q. And Mr. Griffis suggested that the glyphosate Monograph, which is on your screen, they didn't actually consider the Greim article. That's what he suggested; right?

14:38:56

A. Correct.

Q. Is that true?

A. They were aware of it. It came out, I think, just in time, based on when the peer-reviewed publication came out. But it's my understanding that the Greim article was a review article, and it didn't have enough details about the studies that were reviewed -- and in particular, the registrant-submitted studies -- for IARC to do the full assessment of the quality of the data, how clean the -- the -- one of the big factors is the -- the feed given to the animals. Was it tested? Was it clean?

Many details that in -- the Greim review article could obviously not get into in a reasonable length. And so the Working Group's judgment was that it didn't provide enough information on any of the individual studies looked at in this review article for them to reach their qualitative assessment. So they didn't consider it.

Q. And isn't it true, sir, in the study -- it's a long Monograph, so I'm trying to find it. They actually discuss what the general data is in it. They discuss that they reviewed it. They discuss the tables; right?

A. They discuss several of the review articles in each of the areas, the animal studies and the genotox studies. There are actually several reviews done by

different groups of scientists.

Q. And specifically they looked at the Greim article; correct?

A. Yes.

14:40:26 Q. And from my understanding, the tables attached to the Greim article, they're like thousands and thousands of pages; right?

A. Well, no. It's not thousands and thousands of pages. But I think the -- that Greim review article

14:40:38 might have been 45 pages in the journal. It was a really long -- long pages.

Q. No, that's the article. But the tables with all of the data, that was thousands of pages?

A. Oh, yeah. That was not published.

14:40:51 Q. And assuming it was made available to the IARC group a couple days before their meeting, would it have been humanly possible to have gone through all that data at that last minute?

A. No.

14:41:04 Q. Okay. I have been told what page it's on, so let me just show it.

It's on page 34.

A. Maybe you need to kick it again.

Q. Yes, sir.

14:41:31 It's on page 34. They can look at it later.

All right. Last thing. We talked about -- Mr. Griffis asked you about excessive toxicity in animal studies; right?

A. Correct.

14:41:45 MR. WISNER: Permission to show the animal study boards?

THE COURT: Any objection?

MR. GRIFFIS: No.

Q. BY MR. WISNER: I don't know if Dr. Portier 14:41:57 realized how much we'd be using these things, but --

So these are the animal -- these are the rats and mice studies; right?

A. Correct.

Q. Now, you know, let me ask you something: 14:42:08 Dr. Portier discussed this a little bit, but I want to clear this up. In any of these studies, do you know if they ever showed that -- in the maximum dose, that people were getting -- rats or animals were dying?

A. Certainly, to my knowledge, no. I mean, there 14:42:27 may have been one or two deaths, but their -- the studies didn't have excessive mortality in the high does group.

They're designed to go as close to this multiple maximum tolerated dose as possible. And I don't believe any of them were classified as invalid because the MTD 14:42:53 was exceeded.

Q. So these -- these tumors, I mean, they were tumors seen not just because of toxicity, they were seen because of the chemical?

A. That's certainly the interpretation of some scientists, yes.

14:43:07

Q. All right. So, Doctor, do you think it's possible or appropriate to explain away all those tumors because of toxicity?

A. No.

14:43:32

MR. WISNER: All right. No further questions.

Q. Thank you for your time, Doctor.

THE COURT: Anything further?

MR. GRIFFIS: Indulgence, may I ask three, your Honor? Three questions.

14:43:40

THE COURT: Oh, yes.

RECROSS-EXAMINATION

BY MR. GRIFFIS:

Q. These are all from Exhibit 169, sir, the IARC Monograph, which is in Plaintiff's binder.

14:43:48

A. We've got it in multiple binders.

MR. GRIFFIS: Could we have the Elmo, and go to page 33, please?

THE WITNESS: What do you want?

14:44:03

Q. BY MR. GRIFFIS: I'm on page 33 of the IARC

Monograph.

A. Okay.

Q. Working Group 112's review.

And you know, sir, that they relied for their animal findings on two studies, the Knezevich & Hogan study and the Atkinson study; correct?

A. Who is "they"?

Q. Working Group 112.

A. Well, they reviewed a number of studies, yes.

Q. And the ones that they thought were significant on page 33, were -- the Knezevich & Hogan study, which we were talking about, with the renal tubule adenomas. And then this other study, which is Atkinson. Those are the two; right?

A. Those are two of them, yes.

Q. Those are the two; right?

A. Those are two of them, yes.

Q. Those are the two that they thought were significant and relied on for their animal study conclusions; right?

A. I would just need to refresh my memory. There were 12 studies. There were a number of different tumors in different ones, and I don't recall exactly what they said about each of the different tumor types on the board there.

Q. Okay. That's all. We talked about that with Dr. Portier.

I have two questions about these two studies. The first one, this is the -- on the left. This is the Knezevich & Hogan study. And it's the one with the renal tubule adenomas, which we've been talking about; right?

A. Yes.

Q. Yes, sir?

Okay. And then this figure, the P value of 34 percent, which they considered to indicate a significant increase, that didn't show up at all?

A. That -- the data that you highlighted is the adjusted data following the identification by some pathologists of an additional tumor in the control male rat group.

Q. Yes, sir. And my question is: Do you know that Dr. Portier had testified that this adjustment was done with his vetting? He was asked to vet that and later concluded that he used the wrong statistical test, and the correct statistical test would drive the results away from significance. Did you know that?

MR. WISNER: Objection. Completely misstates Dr. Portier's testimony.

THE COURT: Overruled. He may answer.

THE WITNESS: I haven't -- I haven't seen

Dr. Portier's testimony on the study.

Q. BY MR. GRIFFIS: Okay. In another study -- that's the Atkinson study over here (indicating).

A. Okay.

14:46:25 Q. We were just talking about the rarity of kidney tubule adenomas and how they're a rare tumor. And I don't remember exactly what the statistics were. But seen very rarely in the historical controls the EPA discussed; right?

14:46:38 A. Correct.

Q. Do you know that in this study there were two kidney tubule adenomas?

A. I haven't seen it.

Q. And that they were in the control group?

14:46:49 A. No, I -- I can't speak to that.

Q. Yes, sir. Thank you.

MR. GRIFFIS: No further questions.

MR. WISNER: Redirect, your Honor?

THE COURT: Yes.

REDIRECT EXAMINATION

BY MR. WISNER:

Q. Doctor, you talked about a different study with a different colony of mice; right?

14:47:04 A. I believe so, yes.

Q. Did he share with you the historical controls for that group?

A. No.

Q. But we did share with the jury the historical controls for the Knezevich & Hogan study; right?

A. For the CD-1 mice.

Q. That's right. And that one showed that it was 1 out of 300?

A. 900.

Q. It was 3 out of 900.

A. Okay. Go ahead. Good.

Q. All right. I finally have this working. This is the Monograph we were just looking at, page 34. And on Section 3, this is the Greim discussion; right?

A. Right.

Q. And it goes through a published review containing information on five long-term bioassay feeding studies in mice.

Do you see these?

A. Yes.

Q. It goes on to the next page, discusses the results of the various studies that were presented in the table.

Do you see that?

A. You're going kind of fast for me.

Q. Yeah, I know. I'm just trying to show that it's all in there.

A. Yes.

Q. Okay. And the one thing that I just want to point out, at the very bottom here, the Working Group has a comment. It says, "The Working Group was unable to evaluate these studies, which are not included in Table 3.1 and Section 5.3, because the information provided in the review article and its supplement was insufficient. For example, information was lacking on statistical methods, choice of doses, body weight gain, survival data, details of histopathological examination and/or stability of dose feed mixture."

Do you see that?

A. Yes.

Q. And those things that they're talking about here, I mean, this is stuff that you have to look at before you can assess the quality of a study; right?

A. Correct. That's the heart -- some -- some of the critical factors.

Q. So is it even remotely accurate to say that IARC avoided or refused to look at the Greim study?

A. No.

MR. WISNER: No further questions.

MR. GRIFFIS: Nor from me, your Honor.

THE COURT: All right. Actually, Counsel, can you approach, please?

(Sidebar.)

[redacted]

(End sidebar.)

THE COURT: All right. Thank you very much, Dr. Benbrook. You may be excused.

THE WITNESS: Okay.

(Dr. Benbrook leaves courtroom.)

THE COURT: And Ladies and Gentlemen, we'll take the afternoon recess now and resume at 3:05. Please do not discuss the case.

14:50:31

(Jury leaves the courtroom.)

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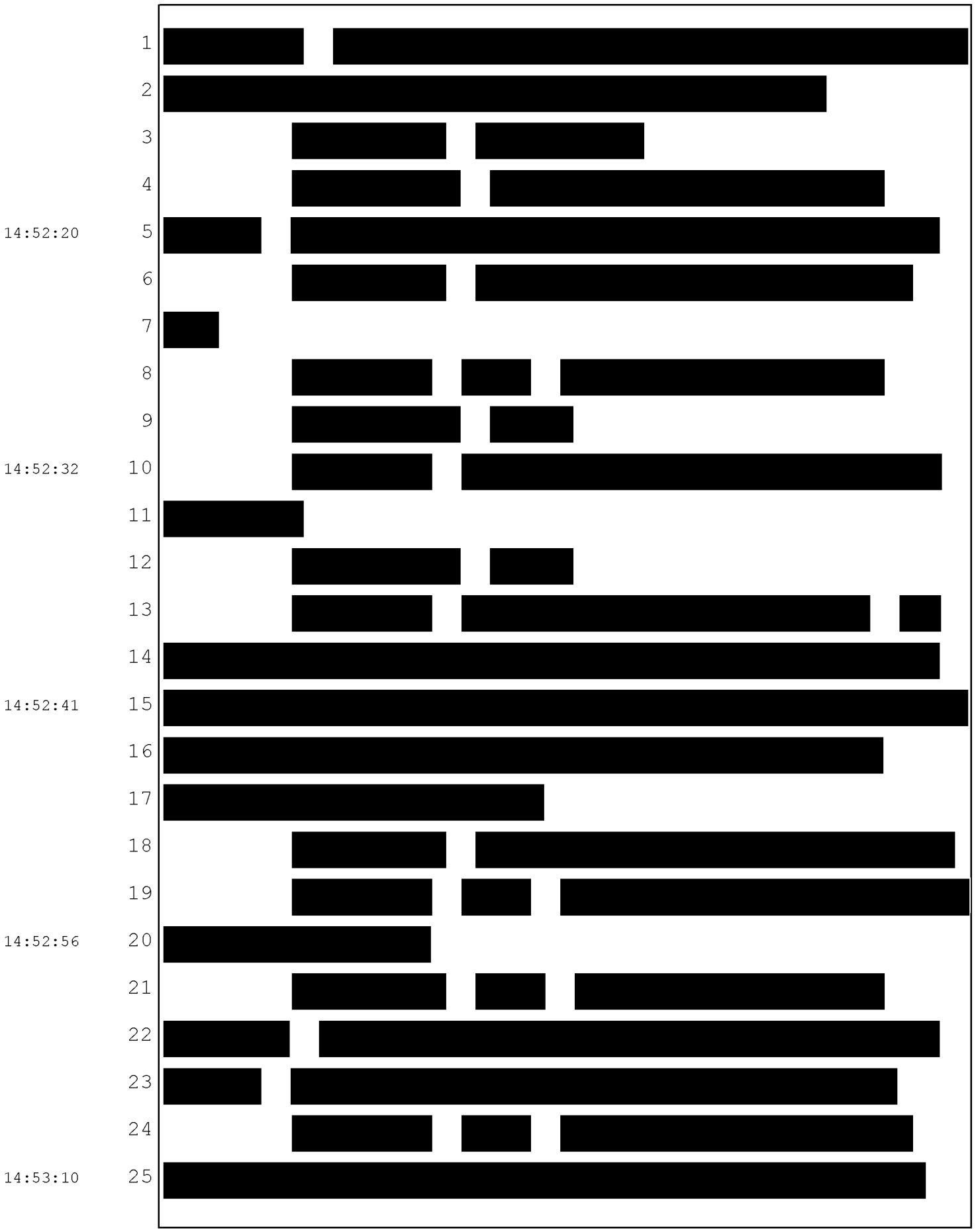
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(Recess.)

THE COURT: Welcome back, Ladies and Gentlemen.

15:07:59 Mr. Wisner, you may proceed.

MR. WISNER: Thank you, your Honor.

At this time we call Steven Gould, Monsanto's regional manager, to the stand via video deposition.

THE COURT: Very well. You may play the video.

15:08:21 (Steven Gould deposition played.)

MR. WISNER: That's the entirety of the depo, your Honor.

At this time, we call by video deposition Kirk Azevedo, a former employee of Monsanto and sales

15:32:39 representative.

THE COURT: All right. And can you please reduce the volume a little bit?

MR. WISNER: I think it was higher on that one because the audio was bad for the attorney. But, yes,

15:32:49 we'll make sure to decrease the volume.

THE COURT: All right. Thank you.

(Kirk Joseph Azevedo deposition played.)

MR. WISNER: That, your Honor, concludes the deposition of Kirk Azevedo.

15:48:27 At this time, your Honor, we would move

Exhibits 289, 290, 291 and 299 into evidence. Those were the exhibits that were published during Mr. Gould's deposition.

THE COURT: Any objection?

15:48:42 MR. GRIFFIS: No objection.

THE COURT: All right. Then those exhibits may be admitted.

(Exhibits 289, 290, 291 and 299 admitted into evidence.)

15:48:48 MR. WISNER: Finally, your Honor, we'd like to read a stipulation into the record.

THE COURT: Very well.

MR. WISNER: Ladies and Gentlemen, the following has been stipulated to for the purposes of this case:

15:49:10 "As of the first quarter of 2018, Monsanto's net worth was $6.6 billion. And among Monsanto's assets, cash and cash equivalents were valued at $3.1 billion."

With that, your Honor, the plaintiff rests.

THE COURT: All right. Thank you, Mr. Wisner.

15:49:44 All right, Ladies and Gentlemen. The plaintiff has now concluded their presentation of the evidence in this case. There are some matters that I need to now address with the lawyers before we can proceed further.

So we're going to adjourn for today. Please

15:50:03 remember: Do not discuss the case. Do not do any

research. Do not read any media coverage over the weekend.

On Monday, we're going to start a little bit later. We'll start Monday morning at 10:30. 10:30 on Monday morning. So please return Monday morning at 10:30.

15:50:19

I did get a question from one of the jurors, one of the alternates, about the August 10th end date and whether or not that includes deliberation time. The answer to that is: I'm not quite sure yet. Our goal is to get the case to you in time for you to conduct deliberations, perhaps arrive at a verdict by August 10th. But in large part, that will depend on how next week goes and also how long you take to deliberate.

15:50:39

15:50:58

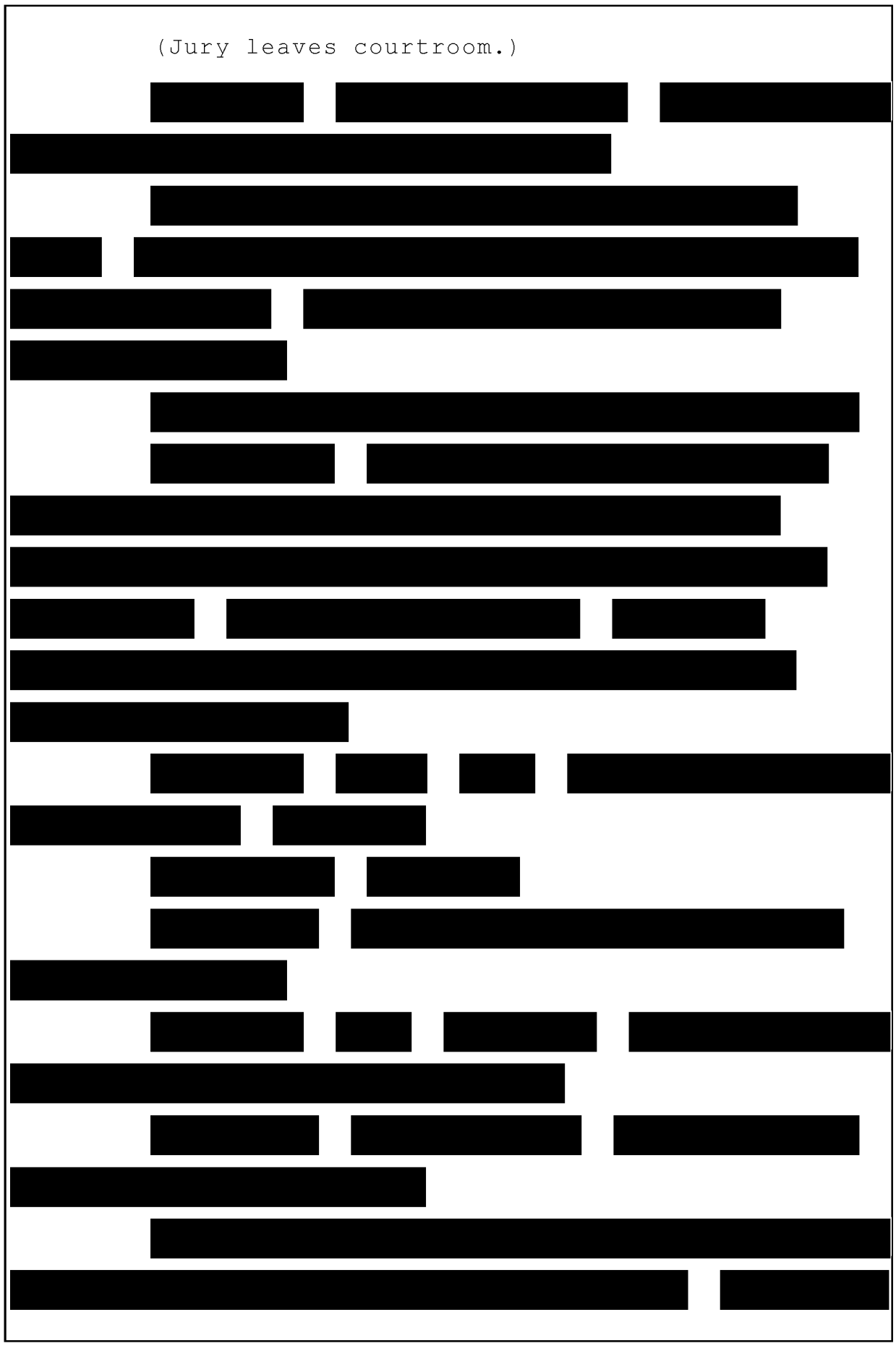
However, once you are deliberating, with respect to the alternate jurors, you will be put on standby, which means you'll be allowed to return to work or home or your other business, and you'll only be called in if necessary to participate in deliberations.

15:51:13

So once the case goes to the jury, the alternates will be released from being here in the courtroom.

All right. So we'll see everyone, then, on Monday morning, 10:30. Thank you.

15:51:25


(Jury leaves courtroom.)

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(Time noted: 3:54 p.m.)

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REPORTER'S CERTIFICATE

I certify that the proceedings in the within-titled cause were taken at the time and place herein named; that the proceedings were reported by me, a duly Certified Shorthand Reporter of the State of California authorized to administer oaths and affirmations, and said proceedings were thereafter transcribed into typewriting.

I further certify that I am not of counsel or Attorney for either or any of the parties to said Proceedings, not in any way interested in the outcome of the cause named in said proceedings.

IN WITNESS WHEREOF, I have hereunto set my hand: July 27th, 2018.

<%signature%>
Leslie Rockwood Rosas
Certified Shorthand Reporter
State of California
Certificate No. 3462