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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____	)
OPTICIS CO., LTD,	)
	)
Petitioner,	)
	)
vs.	)No. IPR2023-01256
	)U.S. Patent No. 7,198,416
INNEOS, LLC,	)
	)
Patent Owner.	)
_____	)

REMOTE VIDEOTAPED DEPOSITION OF ALAN WILLNER, M.D.
Los Angeles, California
Thursday, April 11, 2024
Volume I

Reported by:
ALEXIS KAGAY
CSR No. 13795
Job No. 6619022
PAGES 1 - 180

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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

		)
OPTICIS CO., LTD,		)
		)
Petitioner,		)
		)
vs.		) No. IPR2023-01256
		)
INNEOS, LLC,		) U.S. Patent No. 7,198,416
		)
Patent Owner.		)
		)

Remote Videotaped deposition of ALAN WILLNER,
M.D., Volume I, taken on behalf of Respondent,
beginning at 9:31 a.m. and ending at 6:23 p.m. on
Thursday, April 11, 2024, before ALEXIS KAGAY,
Certified Shorthand Reporter No. 13795.

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APPEARANCES (Continued) :

Videographer:

TRISTAN KNUDSEN

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WITNESS EXAMINATION

ALAN WILLNER, M.D.

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BY MS. RICHEY 9

BY MR. JONES 178

EXHIBITS

NUMBER DESCRIPTION PAGE

Exhibit 2023 Optical Communications Laboratory 26
Research

Exhibit 2025 Declaration of Alan E. Willner in 57
Support of Defendant Opticis Co.,
Ltd.'s Opening Claim Construction
Brief

Exhibit 2026 Biographical Sketch: Alan E. 179
Willner

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PREVIOUSLY MARKED EXHIBITS

NUMBER	PAGE
Exhibit 1001	10
Exhibit 1003	54
Exhibit 1004	69
Exhibit 1005	70
Exhibit 1006	97
Exhibit 1013	98

INSTRUCTION NOT TO ANSWER

Page	Line
59	22

1 Los Angeles, California, Thursday, April 11, 2024

2 9:31 a.m.

3

4 THE VIDEOGRAPHER: Good morning. We are going

5 on the record at 9:31 a.m. on the 11th of April 2024. 09:31:09

6 Please note that the microphones are sensitive

7 and may pick up whispering and private conversations.

8 Please mute your phones at this time.

9 Audio and video recording will continue to

10 take place unless all parties agree to go off the 09:31:28

11 record.

12 This is media unit number 1 of the

13 video-recorded deposition of Dr. Alan E. Willner, taken

14 by counsel for patent owner, in the matter of

15 Opticis Co., Ltd., versus Inneos, LLC, filed in the 09:31:45

16 United States Patent and Trademark Office before the

17 Patent Trial and Appeal Board, case number

18 IPR2023-01256.

19 The location of this deposition is

20 707 Wilshire Boulevard, Suite 3500, Los Angeles, 09:32:08

21 California 90017.

22 My name is Tristan Knudsen, representing

23 Veritext Legal Solutions, and I am the videographer.

24 The court reporter is Alexis Kagay, from the

25 firm Veritext Legal Solutions. 09:32:25

Page 7

1 I am not related to any party in this action,
2 nor am I financially interested in the outcome.

3 If there are any objections to proceeding,
4 please state them at the time of your appearance.

5 Counsel and all present, including remotely, 09:32:37
6 will now state their appearances and affiliations for
7 the record, beginning with the noticing attorney,
8 please.

9 MS. RICHEY: Good morning. Carrie Richey for
10 patent owner. I'm with Womble Bond Dickinson, LLP. 09:32:48

11 And we have an attorney remote, as well, who
12 can state their appearances.

13 MR. HERMAN: Good morning. Barry Herman with
14 Womble Bond Dickinson.

15 MR. JONES: Hello. This is Michael Jones from 09:33:05
16 the Rothwell Figg law firm. I am here on behalf of
17 Opticis, the petitioner.

18 (Witness sworn.)

19 THE VIDEOGRAPHER: We may proceed.

20

21 ALAN WILLNER, M.D.,
22 having been administered an oath, was examined and
23 testified as follows:

24

25 EXAMINATION

1 BY MS. RICHEY:

2 Q Good morning, Dr. Willner. My name is
3 Carrie Richey, and I will be taking your deposition
4 today.

5 I know that you've had your deposition taken 09:33:41
6 many times before, so I will spare you the ground rules
7 and just ask you if there's any reason why you cannot
8 give full and truthful testimony here today.

9 A I don't believe so.

10 Q And you understand that this deposition is 09:34:01
11 being taken for the purposes of IPR2023-1 -- sorry --
12 01256 for the -- before the Patent Trial and Appeal
13 Board?

14 A I didn't memorize the number, but I believe
15 that's correct. 09:34:16

16 Q And do you understand that in PTAB
17 proceedings, you may not discuss the content of your
18 testimony with counsel at breaks?

19 A Yes.

20 Q And you have been retained by petitioner, 09:34:24
21 Opticis Co., Limited; is that right?

22 A I believe so.

23 Q And you submitted a declaration in the
24 proceeding; correct?

25 A Yes. 09:34:40

Page 9

1 Q You also submitted a declaration in the
2 district court litigation concerning claim construction
3 issues and that district court proceeding is between
4 the two parties that are in the IPR; is that correct?

5 A I believe so. 09:34:57

6 Q I have a binder that I'm going to share with
7 you. This is basically all of the -- anything in this
8 binder are already exhibits of record.

9 And then here's --

10 MR. JONES: This is just the record from the 09:35:20
11 IPR?

12 MS. RICHEY: It's just the record of the IPR.

13 MR. JONES: Excellent.

14 MS. RICHEY: And they're labeled.

15 BY MS. RICHEY: 09:35:40

16 Q I'd like to direct your attention to the third
17 tab, Exhibit 1001 and just ask you if you recognize
18 that document.

19 A Is it all right if I take the exhibits out of
20 the binder? 09:35:54

21 Q Sure.

22 A Thank you.

23 MR. JONES: You don't happen to have any clips
24 or anything, do you?

25 Dr. Willner, do you want to put some binder 09:36:11

Page 10

1 clips on there and make it a little more manageable, or
2 at least the ones -- like your -- you know, like your
3 deck and stuff like that?

4 THE WITNESS: Thank you.

5 BY MS. RICHEY: 09:37:20

6 Q Okay. Exhibit 1001.

7 A I did not -- when you said "good morning," I
8 did not answer. Good morning.

9 Q Exhibit 1001, right here, this one.

10 Do you recognize that exhibit? 09:37:38

11 A I believe I do.

12 Q Okay. And what is it?

13 A I believe this is what's referred to as the
14 416 patent.

15 Q Okay. And that's -- that's how I'll refer to 09:37:48
16 it today as well.

17 Do you understand that this is the patent
18 that's at issue in this matter?

19 A I believe so.

20 Q And have you fully read it? 09:38:03

21 A I believe I have.

22 Q How many times?

23 A Several.

24 Q Okay. Like, around five times?

25 A I don't remember how many times. 09:38:15

Page 11

1 Q When was the last time that you spent time
2 reading it?

3 A In the last few days, I probably went through
4 it.

5 Q How long did you spend going through it? 09:38:30

6 A I don't remember.

7 Q Was it a whole day?

8 A I just don't remember.

9 THE REPORTER: Doctor, can I ask you to keep
10 your voice up. 09:38:38

11 MR. JONES: Oh, is she hearing this one? Oh,
12 she's hearing this one. That's why.

13 Can -- can I move this closer?

14 THE VIDEOGRAPHER: Sure.

15 MR. JONES: Okay. 09:39:05

16 THE WITNESS: Is -- is this better?

17 Hello?

18 THE REPORTER: Yes, that's better. Thank you.

19 THE WITNESS: Thank you.

20 BY MS. RICHEY: 09:39:20

21 Q So you don't remember how long you spent
22 reading the patent the last time you read it, which was
23 in the last few days?

24 A I don't remember to give you a number.

25 Q Okay. But you -- I asked you if you spent a 09:39:26

Page 12

1 whole day.

2 A I -- I don't remember the bounds of it.

3 Q No bounds?

4 A Well --

5 Q So if I said "a day," you wouldn't say, oh -- 09:39:39

6 you couldn't tell me whether it is a day or less than a
7 day?

8 A It could be a day over the last few days. It
9 could be a lot less.

10 Q Okay. But do you have a specific recollection 09:39:50
11 of whether you spent a day reviewing the patent?

12 A Are you referring to just sitting and -- and
13 reading the patent?

14 Q Yes.

15 A So I don't really remember how much time I 09:40:09
16 spent reading the patent, although my recollection is
17 that I -- I did in the last few days.

18 Q What would you consider the relevant field for
19 the 416 patent?

20 A So I believe I gave an opinion about that. 09:40:26

21 Q Okay.

22 A And the relevant field of -- of the patent
23 in -- this would be reflected in paragraph 105 of my
24 report -- oh, and if it's all right, my -- when I say
25 "my report," I'm referring to the IPR report -- or the 09:42:04

Page 13

1 IPR declaration -- that the relevant field is optical
2 multiplexing devices.

3 Q Okay. Thank you.

4 Who first contacted you about this matter?

5 MR. JONES: I would just like to caution the 09:42:42
6 witness not to divulge any attorney-client privileged
7 or work product privileged information.

8 You can answer the question, but don't discuss
9 the substance of any conversation with counsel.

10 Do you want to -- sorry, that was a long 09:42:56
11 objection. Do you want to repeat the question?

12 BY MS. RICHEY:

13 Q Who first contacted you about this matter?

14 A I believe I was contacted by a firm that tries
15 to match experts with cases. 09:43:15

16 Q And do you recall when that was?

17 A Not exactly.

18 Q Do you recall how far in advance it was of
19 preparing and submitting your declaration in the IPR?

20 A I don't remember. 09:43:37

21 Q Do you have any sense of whether it was months
22 in advance?

23 A Months in advance of when the IPR -- my IPR
24 declaration was filed?

25 Q Was finalized. 09:44:17

Page 14

1 A When you say "finalized," would that be when
2 it was filed or when I was finished with it or?

3 Q Once you signed it.

4 A Oh, okay. It was in advance of that, and I
5 spent time on the -- on the matter before that. How 09:44:44
6 long? I don't remember. It was less than a year, I
7 think, and probably more than a month, but -- it's
8 somewhere in between there.

9 Q Were you asked to provide opinions regarding
10 the 416 patent's validity? 09:45:09

11 MR. JONES: Same caution.

12 You may answer.

13 THE WITNESS: By the -- I'm not quite sure of
14 the question. Is -- is that by the -- the firm that
15 contacted me originally or by the law firm that I -- 09:45:25
16 that I ended up working with?

17 BY MS. RICHEY:

18 Q Which law firm did you end up working with?

19 A I believe it's the law firm that Mr. Jones
20 works for, Rothwell Figg. 09:45:44

21 Q Okay. And after you were --

22 A Or I should probably just say I was retained
23 by them. I don't -- I don't -- I'm not an employee of
24 them. I don't work for them. I'm just -- I -- I was
25 asked to look at the technical issues. 09:46:01

Page 15

1 Q Okay. So that was your -- so that's how you
2 kept -- that's what you were asked to do, to look at
3 the technical issues?

4 A Well, I don't remember the different
5 discussions, but I was at one point -- I don't remember 09:46:23
6 if it was the first conversation, later -- I was asked
7 to look at issues that would relate to an IPR and
8 whether the 416 may not have been valid.

9 Q And how long did it take you to investigate
10 and -- and form your opinions in this matter? 09:47:04

11 A I don't remember the amount of time, but it
12 certainly was sufficient for me to form my opinions.

13 Q And what would you consider sufficient in
14 this --

15 A To -- 09:47:24

16 Q -- scenario?

17 A To understand the technical issues and
18 whatever legal issues I needed to apply that would
19 relate to the report that I eventually submitted.

20 MR. JONES: Dr. Willner, you're just ever so 09:47:48
21 slightly talking over each other, with the questions
22 and answers. This is on the transcript. If you could
23 just give a second between, thank you.

24 MS. RICHEY: And I will do the same. I'll try
25 to do the same. 09:47:59

Page 16

1 BY MS. RICHEY:

2 Q Okay. And in forming your opinions, did you
3 speak with anyone?

4 MR. JONES: Same caution as before.

5 You may answer. 09:48:19

6 THE WITNESS: Are you referring to people who
7 were not the lawyers I was working with at
8 Rothwell Figg?

9 BY MS. RICHEY:

10 Q Yes. Anyone. 09:48:29

11 A Oh, so outside of the lawyers?

12 Q Uh-huh.

13 A No.

14 Q And then in considering the lawyers, who did
15 you speak with? 09:48:43

16 MR. JONES: Same caution.

17 You may answer.

18 THE WITNESS: Mr. Jones, Mr. Rawls,
19 Mr. Zoltick.

20 BY MS. RICHEY: 09:49:03

21 Q Anyone else?

22 A I don't remember.

23 Q What did you do to prepare to testify at this
24 deposition?

25 A I reviewed my report. I met with counsel. 09:49:21

Page 17

1 Q Did you review any of the art that was cited
2 in the IPR?

3 A Well, I -- I -- when I reviewed my report, I
4 reviewed the -- I reviewed several of the art that was
5 cited in my report.

09:50:02

6 Q Let me see if I understand.

7 When you -- when you prepared, you reviewed
8 your declaration, which referred to the references, and
9 that's the portion of the references that you reviewed?

10 MR. JONES: Objection; form.

09:50:19

11 THE WITNESS: So I reviewed my declaration. I
12 reviewed the art that was cited.

13 When I -- and I think the way I -- I was
14 saying it, I didn't review necessarily only the cited
15 portions, but when I say "cited," there were several
16 pieces of art that were -- that were considered.

09:50:52

17 So I looked at several of the pieces of art
18 that were -- were made reference to.

19 BY MS. RICHEY:

20 Q When you say "made reference to," that's in
21 your declaration?

09:51:16

22 A Correct. But not limited to necessarily those
23 specific cites.

24 Q Got it. Thanks for clarifying.

25 Did you speak to anyone besides the attorneys

09:51:27

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1 for the petitioner in preparing for the deposition?

2 A Is your questions about -- are you referring
3 to somebody from Opticis?

4 Q Anyone besides the attorneys.

5 A Oh. So no. 09:52:00

6 Q And besides your attorney and the prior art --
7 or the art cited therein, did you review any other
8 documents?

9 A I reviewed -- and review is not necessarily
10 carefully, but I took a look at my district court 09:52:34
11 declaration and the institution decision by the board.

12 Q Did you review any other documents in
13 preparing for your deposition?

14 A I don't remember anything else.

15 Q I'm sorry if I asked you this already. 09:53:33

16 Did -- how much time did you spend preparing
17 for your deposition?

18 A I don't believe you did ask me.

19 Q Yeah, I couldn't remember if it was just the
20 declaration or the depo, too. 09:53:41

21 A Well, I spent a number of hours reviewing.

22 Q Would that be more than ten hours?

23 A I would say it's fair to say more than ten
24 hours.

25 Q More than 20 hours? 09:54:20

Page 19

1 A So I -- I haven't really kept a -- kept track
2 as of now. In other words, I probably did keep track,
3 but I don't remember. I don't remember.

4 Q Okay. But upwards of ten?

5 A Oh, I can -- I would say -- 09:54:39

6 Q But -- yeah.

7 A -- yes, more than ten.

8 Q I'm sorry, I keep -- we're having a
9 conversation. I keep forgetting to pause and --

10 Understood. 09:54:47

11 Okay. So let's see. Let's talk about USC.

12 You've been working there for -- for a while,
13 I guess.

14 What year did you start working in -- at USC,
15 in any capacity? 09:55:02

16 A 1992.

17 Q Okay. And what time did you -- at what time
18 did you become a professor?

19 A There are different levels of professor.

20 So are you asking me in general, at any level, 09:55:20
21 or assistant or associate or full or distinguished?

22 Q Let's say just the first title that you had
23 with the word "professor" in it.

24 A I believe that's when I started, which was, I
25 believe, January of 1992. I was an assistant 09:55:43

Page 20

1 professor.

2 Q Okay. And what's the next level up from that
3 one?

4 A At USC, it would be considered -- in the
5 normal progression would be an associate professor. 09:55:59

6 Q As an associate professor, do you run your own
7 classes?

8 A Yes.

9 Q Is it undergrad?

10 A Undergraduate and graduate. 09:56:09

11 Q So did your work duties change between the
12 different levels of professor or...

13 MR. JONES: Objection; form.

14 THE WITNESS: The -- my work is -- at USC
15 involves various activities. There's research. 09:56:35
16 There's teaching. And there's service, professional
17 service, which would be both internal to the university
18 as well as external.

19 External professional service are things like
20 being chair of a technical conference, being an editor 09:57:03
21 in chief of -- of an international journal, being
22 president of a professional society.

23 So in terms of the progression, one is
24 involved, and I was, with all of those aspects at each
25 level, although the expectations change. What is 09:57:28

Page 21

1 expected of somebody when they're more senior is a
2 little different than when they're just starting.

3 BY MS. RICHEY:

4 Q Okay. And when did you become the director of
5 the optical communications lab at USC? 09:57:45

6 A Since I started the optical communications
7 lab --

8 Q So you started it?

9 A I -- I started that lab. It's the name of my
10 lab. So I -- I guess I started it when I -- when I 09:57:59
11 opened the door and elected myself director.

12 Q And how much time do you spend in the lab now?

13 A Now, meaning today?

14 Q Well, let's see. What's -- it's April. I
15 guess class is in session right now; right? 09:58:32

16 There's a semester going on at USC right now,
17 right, a spring semester?

18 Do you have classes in the lab? Do you
19 conduct classes in the lab?

20 A Classes -- 09:58:44

21 MR. JONES: Objection; form.

22 THE WITNESS: When you say conducting classes
23 in the lab, what -- what does that mean?

24 BY MS. RICHEY:

25 Q Are any of -- well, are you -- you are 09:58:59

Page 22

1 teaching some courses; is that correct?

2 A I -- I teach one course.

3 Q Oh, you teach one course. Okay.

4 And then do you oversee Ph.D. students?

5 A Yes, I do. 09:59:08

6 Q Okay. And so in regard to either of those,
7 overseeing Ph.D. student or teaching courses, are any
8 of those -- does any of that require going to your
9 optical lab?

10 A So I go to my lab when I want to go to my lab, 09:59:24
11 and I'm in my lab, and I deal with my students. I'm in
12 the labs sometimes. I'm in my office sometimes.

13 Q Okay. So is it fair to say, like, during a
14 given week, you would visit your lab daily?

15 A I don't remember. I've been in so many labs 10:00:04
16 in my -- in my career, working labs, my own lab
17 included. This is -- I have so much experience in
18 labs, lots of hands-on experience, lots of experience.

19 You know, in terms of, you know, remembering
20 when and where, I don't remember right now. 10:00:26

21 Q Okay. When you started the lab at USC in
22 1992, what did it take to turn presumably an empty room
23 into an optical lab?

24 A I've done that a few times in my career and...

25 Q So when -- so going back to my question, at 10:01:15

Page 23

1 USC, in 1992, when you started the lab, which is what
2 you said, told me, what -- what did you -- how did you
3 turn, like I said, a presumably empty room into a lab?

4 MR. JONES: Objection; form.

5 THE WITNESS: Well, it's a -- it's -- it's 10:01:37
6 a -- it's a -- I'm not quite sure what the question is
7 in terms of how to turn it into a lab. It's -- it --
8 it's -- it's a -- it's -- it's a -- I can explain what
9 the lab does.

10 BY MS. RICHEY: 10:02:11

11 Q Sure. When you started the lab at USC in
12 1992, what was -- what were the lab's capabilities?

13 A Before I got there, there was -- there wasn't
14 much in that -- in that room, and then I started
15 thinking about what research I wanted to do. I started 10:02:44
16 working with some students. I started considering what
17 equipment to buy. And even then, I had a fair amount
18 of experience to understand various components in
19 the -- in optical technologies.

20 Q Can you list some of the major equipment that 10:03:25
21 you purchased or that, I guess, USC procured in --
22 around that time to start the lab?

23 A I don't remember the specific items, but it
24 was a fair amount of equipment that we -- that we
25 bought. 10:03:54

Page 24

1 Q Can you give a couple of examples?

2 A I -- I just don't remember the -- the
3 timeframe of when things were bought.

4 Q Is there any piece of equipment you would say
5 that any optical lab must have in order to be a 10:04:20
6 functioning optical lab?

7 A As I -- I'm not sure what the question is
8 really asking. I'd have to think about the question a
9 lot more.

10 Q Does anything come to mind when you think 10:04:49
11 optical lab, as far as equipment that must be in the
12 room in order to be considered an optical lab?

13 MR. JONES: Objection; form.

14 THE WITNESS: I -- I don't know how to answer
15 the question. 10:05:06

16 It -- it sounds like a definition, almost, of,
17 you know, in order to be defined as an optical lab, you
18 must have X.

19 I'm not -- so I'm not sure. I -- I'd have to
20 think about really how to answer that. 10:05:28

21 BY MS. RICHEY:

22 Q Okay. Has the equipment in the lab changed
23 over the years?

24 A We've -- we've purchased new equipment. We've
25 retired some older equipment. 10:06:10

Page 25

1 Q Okay. So it's changed?

2 A The -- I think that's a fair statement that
3 new equipment came in the lab and some equipment has
4 left the lab.

5 Q What's the largest piece of the equipment in 10:06:38
6 the room now?

7 A I don't remember.

8 Q Do you know what the most expensive piece of
9 equipment is in the lab?

10 A I don't remember. 10:06:58

11 MS. RICHEY: So I'm going to mark that
12 Exhibit 2023.

13 (Exhibit 2023 was marked for identification
14 by the court reporter and is attached hereto.)

15 10:08:35

16 BY MS. RICHEY:

17 Q Do you recognize that?

18 A I believe I do.

19 MR. JONES: Sorry, Carrie, just briefly, since
20 we have a remote court reporter and we're in person, 10:08:51
21 how are we handling the marking and keeping of
22 exhibits?

23 MS. RICHEY: I've just always done my best
24 during -- during --

25 MR. JONES: And then are we going to scan them 10:08:59

Page 26

1 and send them to -- how are we --

2 MS. RICHEY: Oh, yeah, at the end?

3 MR. JONES: Yeah.

4 MS. RICHEY: Yeah, yeah, yeah, she'll just get

5 a copy of them at the end. 10:09:06

6 MR. JONES: Okay.

7 MS. RICHEY: Okay. Yeah.

8 BY MS. RICHEY:

9 Q Sorry, do you recognize the document that I
10 just -- do you recognize what's on the -- the document 10:09:21
11 that I just handed you?

12 A I believe this is -- it might be part of the
13 web page for my -- for my lab, but I'm -- I'm not sure.

14 Q Okay. Well, that's what it is.

15 But do you recognize the photograph at the -- 10:09:49
16 on the last page?

17 MR. JONES: Objection; form. Objection;
18 foundation.

19 THE WITNESS: So I haven't looked at my web
20 page in a little bit, so... 10:10:14

21 BY MS. RICHEY:

22 Q Let me ask you this, do you -- do you know
23 what that's a picture of?

24 A I -- I'd have to go back and look carefully.

25 It's a -- it's a photograph, I believe, of some part of 10:10:35

Page 27

1 my lab.

2 Q Okay. You believe that it is?

3 A I would imagine it -- I -- I -- I couldn't --

4 I assume that -- that's why it's there. I -- I don't

5 remember the details right now. 10:11:05

6 Q Well, so does the photograph -- the image
7 being depicted in the photograph look familiar to you?

8 A It looks familiar, but I can't, just sitting
9 here, remember details about it.

10 Q Okay. If you flip to the page before, the one 10:11:34
11 with the picture, second to last page, have you ever
12 seen these images before?

13 A I believe I -- I have.

14 Q Can you tell me what they are?

15 A I think these are various pictures related to 10:11:55
16 the research that my lab is involved with.

17 Q Can you flip back to the last page again?

18 A Yes.

19 Q At the top of the page, there's also some
20 images. Have you ever seen those images before? 10:12:31

21 A I believe I have.

22 Q And what are those?

23 A Those are images that relate to the research
24 that my lab is involved with.

25 Q Okay. So then going back to the picture at 10:12:51

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1 the bottom, does that help refresh your memory as to
2 whether this is a picture of your lab or not?

3 A So the -- I assume -- I believe it is a
4 picture from my lab, but in terms of verification, like
5 is it possible this photo was mistaken -- so am I 10:13:22
6 affirmatively saying I know a hundred percent this is
7 from my lab? It looks familiar to me. It probably is
8 from my lab. It's -- that's why we probably put it up.

9 But am I -- am I verifying this photo? I --
10 I'd have to do a little more digging for -- for 10:13:44
11 complete verification, but it looks familiar.

12 Q Okay. So does the equipment depicted in the
13 photograph look familiar to you?

14 A Generally speaking, I -- it looks familiar,
15 but -- but in terms of the details, I'd have to refresh 10:14:08
16 my memory.

17 Q So in thinking about the photograph from a
18 person of ordinary skill in the art in this case, would
19 a person of ordinary skill in the art be familiar with
20 the equipment that's on this -- depicted in this 10:14:28
21 picture?

22 MR. JONES: Objection; form.

23 THE WITNESS: So that sounds like -- a person
24 of ordinary skill in the art is something that I
25 believe I discussed, and I would -- if you -- if I'm 10:14:43

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1 supposed to give an opinion about what's in this photo
2 would be something a person of ordinary skill in the
3 art would be familiar, I'd want to really refresh my
4 memory and go through what's in the photo, and sitting
5 here, that would be quite a difficult task. 10:15:12

6 BY MS. RICHEY:

7 Q Okay. Let me ask it from your perspective.

8 Do you recognize the equipment that's in the

9 photo?

10	A	I recognize some of the things, but...	10:15:22
----	---	--	----------

11 Q So if I point to something in the photograph,
12 I want -- I'm going to ask you if you could tell me
13 what it is.

14 A I -- I would really -- you could ask me, but
15 I -- it would be hard to do that as we stand -- as -- 10:15:37
16 as we sit here.

17	Q	Okay.
----	---	-------

18 A I'd want to -- from -- I'd want to take my
19 time and probably go into the lab and really look at
20 it. It doesn't seem like there's any external 10:15:53
21 annotation here that either I or my students had done.

22 Q Okay. So I'm just going to point to something
23 and you can tell me if you know what it is or not.

24 MR. JONES: And I'll object to form,
25 foundation. 10:16:09

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1 MS. RICHEY: Fine.

2 BY MS. RICHEY:

3 Q Can you see where I'm pointing on the picture?
4 This large sort of arm pull like thing that's, like, in
5 the forefront of the photograph, do you know what that 10:16:22
6 is?

7 A If I were in my lab looking at it, I probably
8 would be familiar with it. Looking here in the
9 photograph, I feel -- I -- I don't feel comfortable to
10 be describing what's in a photograph. 10:16:34

11 Q So is this a photograph of your lab?

12 MR. JONES: Objection; form.

13 THE WITNESS: So I believe it's a photograph
14 of my lab. It's a photograph. And things look
15 familiar to me. My lab is fairly large, and there's a 10:17:05
16 lot of things in there. This looks familiar. I don't
17 remember when this was taken. And in terms of
18 verifying, this is from -- from my lab, from -- and
19 specifics about it, I don't remember enough to verify
20 and to say this is a photo in my lab. 10:17:36

21 But that being said, it probably is because
22 that's probably why we have it on here, and it does
23 look familiar to me.

24 BY MS. RICHEY:

25 Q Okay. So going back to this arm thing that I 10:17:48

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1 pointed out, do you know what this is?

2 MR. JONES: Objection; form.

3 THE WITNESS: So if I were in my lab, I would
4 have a much better chance of looking at it and knowing
5 what it is. Based on a figure, where it's not -- it 10:18:22
6 was not taken -- I don't -- I doubt it was taken to be
7 able to point things out with certainty.

8 So I -- I would want to -- in order to give an
9 opinion about what this is, I would want to see this
10 and be able to give an opinion. 10:18:50

11 And based just on looking at it, it's not
12 clear to me that I could give such an accurate opinion
13 based on such a figure.

14 BY MS. RICHEY:

15 Q Okay. Let me ask you another question about 10:19:11
16 something in the picture.

17 I'm going to point to these yellow circular
18 things here. They're here.

19 Do you know what that is?

20 MR. JONES: Objection; form. 10:19:31

21 THE WITNESS: So if -- if I were in my lab --

22 MS. RICHEY: These yellow things here. It's
23 here, too.

24 MR. JONES: Objection; form.

25 MS. RICHEY: You have it in front of him. 10:19:42

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1 MR. JONES: Yeah, I'm just --

2 MS. RICHEY: You can draw an arrow. This or
3 this.

4 MR. JONES: For the record, we now have an
5 exhibit that's annotated. 10:19:59

6 Do you want to make that Exhibit 2023, Carrie?

7 MS. RICHEY: Sure.

8 MR. JONES: Okay.

9 THE WITNESS: I actually can't see where you
10 put the marks. My apologies. 10:20:32

11 MS. RICHEY: Sure.

12 THE WITNESS: I -- oh, okay. Now I can see
13 the one arrow.

14 You -- you put two arrows?

15 BY MS. RICHEY: 10:20:53

16 Q I put two. But if you can see one, I'll refer
17 you to that one and see if you can -- if you can tell
18 me what it is.

19 A So I can tell you what it might be.

20 Q Okay. 10:21:06

21 A So, again, it's a photograph, not -- not taken
22 with the intent, I don't believe, of pointing things
23 out.

24 If I was in the lab, I could be a lot more
25 confident, but just sitting here, it looks like it 10:21:24

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1 might be fiber, optical fiber.

2 Q Okay.

3 A But it might not be. I just -- it's --
4 from -- from the photo, that's -- possibly.

5 Q Got it. Thank you. 10:22:02

6 Also, let's see, can -- do you know what the
7 round -- circle these. This pen doesn't write over the
8 ink very well.

9 There's a bunch of them in the back. They're
10 little circular things. I'm trying to point to one. 10:22:18
11 If you can tell me what -- if you know what those are.

12 MR. JONES: Objection; form. Objection;
13 foundation.

14 THE WITNESS: From -- I would find this very
15 difficult, based on the photo, to be giving you -- at 10:22:34
16 least what I think you're pointing to -- to give -- I'd
17 have to be there to see it to have a better photo to
18 really give you an accurate answer.

19 BY MS. RICHEY:

20 Q Okay. The little circular things that are 10:22:50
21 in -- in the picture. There's several in the back,
22 that back corner, on the -- top right-hand corner.

23 MR. JONES: Same objection.

24 THE WITNESS: I -- I don't -- I can barely
25 make it out, when -- 10:23:00

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1 MS. RICHEY: Okay.

2 THE WITNESS: -- looking at it. I mean,
3 it's -- it -- yeah. I mean, it's -- it's not clear to
4 me, just -- the photo is not clear to me, so...

5 BY MS. RICHEY: 10:23:11

6 Q Okay. Do you know what all of this equipment
7 is on top of?

8 MR. JONES: Same objection.

9 THE WITNESS: Okay. So this equipment is
10 assumingly some -- some experiment. 10:23:44

11 BY MS. RICHEY:

12 Q Is the equipment on the floor?

13 MR. JONES: Same objection.

14 THE WITNESS: So the equipment. I -- I -- I'd
15 say that it's hard to see -- it's hard to see what -- 10:23:59
16 I -- I just can't even see it, actually, like -- you
17 want me to identify the photo, and I'm just -- it's --
18 the photo is not so clear.

19 BY MS. RICHEY:

20 Q Okay. Can you tell whether that -- the 10:24:29
21 equipment depicted in the photo is on the ground or on
22 the floor?

23 MR. JONES: Objection; asked and answered.

24 THE WITNESS: I don't -- I don't even -- first
25 of all, there's equipment all -- all -- strewn all over 10:24:42

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1 the place in -- in -- in here.

2 So is it possible something is on the floor?

3 I -- I don't know. Is it possible something is not on
4 the floor? Assumingly, there are things that are not
5 on the floor. 10:25:03

6 BY MS. RICHEY:

7 Q Okay. Can you flip to -- let me take my back
8 so I have it, and then you can look at yours.

9 Can you flip to the front page of this again.

10 And -- I think there's one more page. 10:25:21

11 One more page to go to the front.

12 There you go.

13 MR. JONES: So he --

14 BY MS. RICHEY:

15 Q That's the front page. 10:25:33

16 MR. JONES: So he has something different than
17 I have, then.

18 MS. RICHEY: There should be like a cover
19 page. Did it stuck on a different -- no, it's right.

20 Okay. 10:25:37

21 Where did your cover page go?

22 MR. JONES: As long as that ends up --

23 MS. RICHEY: Yeah.

24 MR. JONES: -- as the exhibit, it's fine.

25 ///

1 BY MS. RICHEY:

2 Q Okay. This says "Optical Communications
3 Laboratory, University of Southern California";
4 correct?

5 A Correct. 10:25:52

6 Q And you said you started the -- the optical
7 communications laboratory at USC; correct?

8 A I started this optical communications
9 laboratory. Is it possible it was an optical
10 communications laboratory that somebody else had before 10:26:09
11 I was there, it might have been. But this lab is the
12 one I started.

13 Q Okay. And -- the next page.

14 Is it true that research is conducted at
15 Optical Communications Laboratory? 10:26:31

16 A Correct.

17 Q Okay. And can you go to the next page.

18 And isn't it true these are figures or images
19 of research that you recognize that has been conducted
20 at your lab? 10:26:51

21 MR. JONES: Objection; form. Objection;
22 foundation.

23 THE WITNESS: So these are figures that relate
24 to research that has occurred in my lab.

25 ///

1 BY MS. RICHEY:

2 Q Thank you.

3 And then on the next page, at the top, there's
4 additional figures.

5 And do you recognize these figures as 10:27:19
6 representing research that has been conducted at your
7 lab?

8 A These figures I recognize as relating to the
9 research that is conducted in my lab.

10 Q Okay. And then when you go to the -- to the 10:27:31
11 photograph below, you can't tell me whether or not this
12 equipment that you recognize as your lab is sitting on
13 the ground?

14 MR. JONES: Objection; form. Objection;
15 foundation. Objection; asked and answered. 10:27:48

16 THE WITNESS: Well, I'm looking at the photo.
17 The photo is not a particularly clear photo, so -- I
18 mean --

19 Q I -- can --

20 A -- there are -- 10:28:03

21 Q Sorry, I didn't mean to interrupt you.

22 MR. JONES: You -- you may finish.

23 MS. RICHEY: Yeah.

24 THE WITNESS: There is a lot of equipment that
25 seems to fall into this photo. 10:28:16

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1 Can I accurately state that there is or isn't
2 equipment on the ground? Based on the photo, that's
3 hard to do.

4 BY MS. RICHEY:

5 Q Okay. Can you take 30 seconds or so to look 10:28:32
6 at the photograph, and I'm going to ask you the
7 question again.

8 After reviewing this photograph for some
9 additional time, can you determine whether any of this
10 equipment is on the floor? 10:29:16

11 MR. JONES: Objection; form. Objection;
12 foundation, asked and answered.

13 THE WITNESS: Because of the nature of the
14 photo and given that there's a lot of pieces of
15 equipment that are depicted, it would be hard for me to 10:29:41
16 give you an accurate answer as to whether there's any
17 equipment that's on the floor.

18 BY MS. RICHEY:

19 Q Okay. So let's think back at your -- at the
20 lab itself. You said you would be able to have a 10:29:55
21 better idea if you were actually in your lab.

22 Do you have equipment at your lab that is
23 elevated off of the floor?

24 MR. JONES: Objection; form.

25 THE WITNESS: Would equipment sitting in a 10:30:48

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1 shelf, on a -- on a cart or on a table be considered
2 elevated off the floor?

3 BY MS. RICHEY:

4 Q Yes.

5 A So there is equipment that is not on the 10:31:07
6 floor.

7 Q Okay. How big is your lab?

8 A I have four different rooms, and I don't know
9 the exact square footage, but I'm guessing it's on the
10 order of maybe a couple thousand square feet. 10:31:52

11 Q Earlier, you said there may be equipment on
12 a -- a shelf that would be elevated off the ground; is
13 that right?

14 A There -- there should be -- can you please
15 repeat the question? 10:32:20

16 Q You mentioned earlier that equipment may be on
17 a shelf, and you asked whether that was elevated off
18 the ground, and I said yes.

19 So I'm asking, is there equipment that is in
20 the lab that is on a shelf? 10:32:36

21 A Depending on how you -- when I use the word
22 "shelf," there could be a rack, and there could be a
23 shelf, and equipment could be on there.

24 Q Okay. You also mentioned a table.

25 Is there equipment in your lab that's on a 10:33:07

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1 table?

2 A I think so.

3 Q And how many tables do you have in your lab?

4 A Several.

5 Q Do you conduct experiments on the tables? 10:33:19

6 A The tables are used in the performance of --
7 of experimentation.

8 Q Do the tables have a specific name?

9 A Meaning one table would be called A and
10 another table B or? 10:33:53

11 Q Like a name for the type of equipment, if it's
12 a -- are these -- let me -- let me back up.

13 So if you have tables -- there may be a --
14 there's a table in your lab on top of which you've used
15 to conduct experiments. 10:34:17

16 Is that fair to say?

17 MR. JONES: Objection; form.

18 THE WITNESS: So I think that there are --
19 there are -- we have multiple tables, and the -- some
20 of the tables are used for helping -- for helping with 10:34:33
21 the demonstrations of the experimentation.

22 BY MS. RICHEY:

23 Q What does helping with the demonstration of
24 the presentation mean?

25 MR. JONES: Objection. 10:34:58

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1 THE WITNESS: You --

2 MR. JONES: Misstates testimony.

3 THE WITNESS: I think you -- the -- you might
4 have said "presentation," but you may have meant
5 research? 10:35:06

6 So I'll take it as research.

7 We would have some sort of a -- a
8 demonstration, proof of -- proof of principle, in which
9 we're trying to demonstrate something, measure
10 something, characterize something. That's part of 10:35:37
11 the -- that would be part of the research that we might
12 be engaged in.

13 BY MS. RICHEY:

14 Q Okay. Do any of the tables -- would you call
15 them equipment? 10:35:55

16 A It depends how you define equipment, but
17 "equipment" is a broad term.

18 But I would say that the -- the -- the
19 tables -- some of the tables may not be, but some of
20 the tables might be. 10:36:18

21 MR. JONES: Carrie, you've been going for over
22 an hour, so it would be a nice --

23 MS. RICHEY: Okay.

24 THE WITNESS: I'm -- I -- no, I'm -- I'm -- I
25 can keep going. 10:36:34

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1 MR. JONES: You can go?

2 THE WITNESS: Yeah, I can --

3 MR. JONES: Never mind, then.

4 I may need a break at -- sooner --

5 THE WITNESS: Okay. 10:36:34

6 BY MS. RICHEY:

7 Q So for the tables that you would consider
8 equipment, what -- why are those different than the
9 tables that you wouldn't consider equipment?

10 A If the -- the tables -- I might have a table 10:36:50
11 in the lab that may have nothing to do with an
12 experiment. It just may be a table sitting somewhere
13 in the corner.

14 So -- but there are other tables where they're
15 helpful in performing the experiments. 10:37:31

16 Q And when you say helpful for performing the
17 experiments, what do you mean by that?

18 A That the tables are helpful in -- in the
19 various measurements, characterizations, demonstrations
20 of -- of the experimentation being done. 10:38:22

21 Q Okay. Do you have an optical bench in your
22 laboratory?

23 A I do have something that would be called -- I
24 have multiple optical tables. They can also be called
25 sometimes optical benches. But bench and table might 10:38:55

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1 connote different things.

2 But I have multiple what are considered to be
3 optical tables.

4 Q Okay. And when you mentioned the tables
5 before, were you including the optical tables when you 10:39:11
6 were talking about the tables previously?

7 A I believe that the optical tables were what I
8 was including in the previous discussion.

9 Q And how were the optical tables helpful in
10 performing experiments? 10:39:41

11 A The optical tables can be helpful in
12 performing experiments because they are flat surfaces,
13 which is helpful. They typically have holes that one
14 would screw in something to the -- to the table.

15 Q So for screwing something into the table, why 10:41:17
16 would one want to do that during an optical experiment?

17 A There are various reasons why someone would
18 want to screw something into the table.

19 Sometimes one may want to have a piece of
20 equipment that may be protected, and so one may screw 10:42:00
21 in a protective wall around something.

22 One may want to screw something in so that you
23 could have another elevated platform where other
24 equipment may be placed.

25 Q Okay. Are there other reasons why someone 10:42:43

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1 would want to screw something into the optical table to
2 conduct a valid experiment?

3 A Oh, you -- you -- you said a valid experiment?

4 Q Yeah. Or -- it's fine. We can drop the word
5 "valid." Just to conduct -- I was just -- it can just 10:43:01
6 be experiment.

7 MR. JONES: Objection; form.

8 BY MS. RICHEY:

9 Q Let me just say it over.

10 Are there any other reasons why someone would 10:43:09
11 screw something into the optical table to conduct an
12 experiment?

13 A Probably.

14 Q Okay. And can you tell me what those would be
15 that -- the ones you haven't told me so far? 10:43:25

16 A So in -- in addition to the ones I mentioned,
17 one could also screw in something that might be a
18 clamp. Clamps are helpful to keep -- to keep various
19 items in place.

20 Q So, like, an example of an item could be an 10:44:00
21 optical lens?

22 A If one -- do I remember cases where an optical
23 lens was on one of my optical tables and it was fixed,
24 if it was clamped down, I do remember that.

25 Q Okay. Is there a name for the -- the clamps 10:44:54

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1 that you're referring to, like an industry name? Or is
2 that the technical term, clamp?

3 MR. JONES: Objection; form.

4 THE WITNESS: There -- there are lots of
5 different things that -- that might be included and -- 10:45:14
6 and be named.

7 BY MS. RICHEY:

8 Q So there's a lot of different pieces of
9 equipment that would fall under the umbrella of clamp?

10 A Well, yeah, I -- I'm not sure I'm defining it 10:45:33
11 in a narrow way here.

12 Q Would you ever use the term, like, XYZ stage?

13 A So I'm familiar with the term "XYZ stage."

14 Q Uh-huh. Is that a clamp or -- would you call
15 that a clamp? 10:45:54

16 A I would not -- the way we've been using the
17 term, I don't believe I would necessarily say that an
18 XYZ stage would be called a clamp, as we've -- as
19 we've -- as we've been discussing it being screwed
20 into -- being screwed into the optical table. 10:46:22

21 Q Okay. Do -- are XYZ stages screwed into the
22 optical table? Or can they be, I guess?

23 A Often, an XYZ stage would be held in place by
24 clamps that are screwed into the optical table.

25 Q Got it. And so what would -- how would you 10:46:59

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1 describe what an XYZ stage is, then?

2 A An XYZ stage, commonly, would be a piece of
3 equipment that has knobs. And this is when I say
4 "commonly" because there are different kinds of
5 XYZ stages. But the -- an XYZ stage would often have 10:47:54
6 knobs, often three knobs, one for each of these axes,
7 XYZ being three axes, three spatial axes, and the XYZ
8 stage might have a base, and then there would be
9 components above it that based on turning of these
10 knobs, that different parts of the XYZ stage would move 10:48:46
11 in an X direction, a Y direction, and a Z direction,
12 and those being orthogonal to each other. And
13 depending upon how you place it, X, Y and Z can be
14 relative to each other.

15 Q And why would someone use one of these XYZ 10:49:15
16 stages?

17 MR. JONES: Objection; form. Objection;
18 scope.

19 BY MS. RICHEY:

20 Q And you can limit that in a lab. 10:49:28

21 MR. JONES: Same objection.

22 THE WITNESS: So an XYZ stage is -- is a piece
23 of equipment that is -- is a -- is not uncommon in an
24 optical laboratory, and it may be used to position
25 something in space. 10:50:20

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1 So a common use is that the XYZ stage may have
2 some sort of a holder, holding something, and then
3 someone may turn one, two or all three of the knobs to
4 position something in a given place.

5 BY MS. RICHEY: 10:51:20

6 Q Can you give me some examples of something
7 that would be held by the XYZ stage?

8 MR. JONES: Objection; scope.

9 THE WITNESS: An XYZ stage might hold various
10 elements. 10:52:14

11 You -- I believe you asked me for examples.

12 Often, the XYZ stage might have a holder
13 attached to it so that it can hold this other thing.
14 It -- this other thing could be on the XYZ stage, or
15 there might be a holder now attached to the XYZ stage 10:52:45
16 to hold this thing that is now being positioned.

17 So in experimentation, in my lab, over the
18 years, we've held different types of things and moved
19 them on an XYZ stage.

20 One may put a -- an optical fiber held by an 10:53:21
21 XYZ stage.

22 BY MS. RICHEY:

23 Q Okay. Can you provide another example of
24 something that can be held by the XYZ stage in the --
25 conducting an optical experiment? 10:54:05

1 A One could also put other optical elements,
2 such as a lens.

3 Q Any other optical elements that come to mind?

4 A There could be others.

5 Q And do you have any specific others in mind 10:54:57
6 right now?

7 A Not -- not necessarily, but there -- there are
8 others. It's -- it's -- I am not thinking -- I gave a
9 couple of examples.

10 Q Okay. 10:55:18

11 MR. JONES: Carrie, we can take that break
12 when you've at a good point.

13 MS. RICHEY: Yeah, just a couple more
14 questions.

15 MR. JONES: Yeah. 10:55:23

16 BY MS. RICHEY:

17 Q Do you know what a fiber chuck is?

18 A I have heard the term "fiber chuck."

19 Q And what does it mean?

20 A Well, it -- it could mean -- I'm not sure it 10:55:42
21 has a hard-and-fast definition, but I'd want to -- to
22 give you an accurate answer, I -- I'd want to refresh
23 my memory.

24 Q Okay. Could you refer to it as the fiber
25 mount? 10:56:14

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1 A So that's why I was being careful, because
2 there -- one may call different things with different
3 names. And so fiber mount may -- may -- I'd want to be
4 accurate that -- something like a fiber mount may not
5 be what is referred to as a fiber chuck. So I'm not 10:56:35
6 sure they're equivalent terms.

7 Q Okay. Can you give -- so going back to fiber
8 chuck, can you give a -- an example of what you would
9 use a fiber chuck for in a lab?

10 MR. JONES: Objection; scope. 10:57:00

11 THE WITNESS: So given that we're talking
12 about fiber chuck, it might be a good idea to define --
13 to not even define it, but just to -- it's a term that
14 now I'm applying to something. So I'd want to have an
15 understanding of what this might be. 10:57:30

16 And again, as a term, I've heard it.

17 BY MS. RICHEY:

18 Q Uh-huh.

19 A What it encompasses, I'd want to be very
20 careful about accuracy. 10:57:40

21 Q Okay. So if my question is, to you, to define
22 the term "fiber chuck" based off of your understanding,
23 can you -- well, let me just -- that -- I'm going to
24 ask that question.

25 What is your understanding of a -- what a 10:57:58

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1 fiber chuck is?

2 A Well, so I would -- I could give you my
3 understanding that may not be of what a fiber chuck is,
4 but of what I think a fiber chuck is generally
5 connoting to me. 10:58:28

6 And again, because this is -- I'm going from
7 memory, I be -- I may be misremembering. I know I've
8 heard the term. I know -- I know I know what it is,
9 but I may not remember it here.

10 My very general understanding of not 10:58:48
11 necessarily a fiber chuck, but of what I believe you
12 may be asking is something that is holding an optical
13 fiber, which could be many different types of things.

14 Q Okay. And when you say holding an optical
15 fiber, are you -- would a fiber chuck, under your 10:59:26
16 understanding, hold the fiber in place so that it's
17 fixed?

18 A So now we're -- I -- I want to be very
19 careful.

20 So I haven't really given a -- a definition of 10:59:50
21 a -- of a fiber chuck or even my understanding was
22 something that's just holding it, and that doesn't -- I
23 didn't say how it was holding it in any way.

24 And given that fixed is something I did use in
25 my report, in the IPR, relating to claim construction, 11:00:13

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1 I would want to be very careful before applying a term
2 that I used to something that now we're kind of talking
3 about from memory. We're not even sure we're talking
4 about the exact same thing.

5 I would feel very hesitant to use that same 11:00:39
6 term.

7 Q Okay. Let's use the term "fiber mount."

8 Do you have an understanding of -- what's your
9 understanding of what a fiber mount is?

10 A So fiber mount might -- might connote or 11:00:58
11 include different things. So I -- I -- I would be very
12 careful trying to give a definition of what a fiber
13 mount is.

14 MS. RICHEY: Okay. Let's -- all right. Let's
15 take a break really quickly. 11:01:19

16 THE WITNESS: Thank you. Thank you.

17 THE VIDEOGRAPHER: This marks the end of media
18 number 1.

19 The time is 11:01 a.m. We are off the record.

20 (Recess.) 11:16:43

21 THE VIDEOGRAPHER: This marks the beginning of
22 media number 2.

23 The time is 11:18 a.m. We are on the record.

24 MS. RICHEY: First, before we start the
25 questions again, I think for the exhibit that I marked 11:18:06

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1 up, I want to just call it 2024, for the IPR purposes,
2 because I don't think they can do, like, 2023A or
3 something like that, but -- so that now becomes 2024.

4 MR. JONES: That makes sense.

5 MS. RICHEY: Okay. 11:18:23

6 BY MS. RICHEY:

7 Q All right. Dr. Willner, in your IPR
8 declaration, did you express an opinion as to how a
9 person of ordinary skill in the art would understand
10 the term "optical combiner," as used in the 416 patent? 11:18:38

11 A I believe the -- my -- my declaration had some
12 color coding, colors in -- in the text. This looks
13 like it has been printed out in -- in gray scale. If
14 so -- which not only washes out the color, but also
15 makes it difficult to -- to read. 11:23:02

16 MS. RICHEY: Okay.

17 THE WITNESS: I was going to ask --

18 MR. JONES: One second. That's a good point.

19 We're going to -- we'll show you a color copy right
20 now. 11:23:29

21 MS. RICHEY: Might have a color. Let me look.

22 How many pages is your exhibit? 226?

23 THE WITNESS: 226.

24 MR. JONES: Yeah, this looks right.

25 Carrie, may I swap this -- 11:23:43

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1 MS. RICHEY: Yes, you --

2 MR. JONES: -- for your --

3 MS. RICHEY: Yes, you may. That would be --

4 MR. JONES: Exhibit 1003?

5 MS. RICHEY: Yeah, thank you. 11:23:49

6 THE WITNESS: Thank you very much.

7 BY MS. RICHEY:

8 Q What are you referring to?

9 A Oh, I've taken a copy of what's I believe
10 described as Willner declaration in the claim 11:25:52
11 construction of the district court.

12 Q Okay. Got it. Okay.

13 A Please repeat the question.

14 Q Sure. In your IPR declaration, did you
15 express an opinion as to how a person of ordinary skill 11:26:54
16 in the art would understand the term "optical combiner"
17 as used in the 416 patent?

18 A So I believe that the optical combiner is part
19 of the preamble of the claim. I believe -- I don't
20 take -- I don't render an opinion about whether the 11:27:25
21 preamble is limiting, and I give an opinion as to the
22 extent of -- and I don't give an opinion about the
23 preamble being limiting in the IPR. And I give an
24 opinion about to the extent that it might be limiting,
25 then I continue with my analysis. 11:27:55

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1 So "optical combiner" should have its plain
2 and ordinary meaning.

3 Q Okay. And in your IPR declaration, did you
4 apply the plain and ordinary meaning to the term
5 "optical combiner"?

11:28:26

6 A I believe I did, if -- in the sections that
7 say to the extent that the preamble is limiting.

8 Q Okay. So did you assume that the preamble was
9 not limiting in rendering your -- part of your opinion
10 in your IPR declaration?

11:29:24

11 MR. JONES: Objection; form.

12 THE WITNESS: I -- I believe that as I go
13 through the different prior art, that when I tried to
14 show how the prior art was obvious, that -- where
15 the -- the claims are obvious in light of the prior
16 art, the different grounds, by memory, I think what I
17 did was just say to the extent that the preamble is
18 limiting, that it would still be obvious.

11:29:52

19 BY MS. RICHEY:

20 Q Okay. And you -- just to be clear, you did
21 not give an opinion on whether the preamble is
22 limiting; correct?

11:30:13

23 A Are you referring to the IPR?

24	Q	The IPR declaration.
----	---	----------------------

25 A So I do remember giving opinions that if the

11:30:29

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1 preamble was -- that the preamble is limiting, that to
2 the extent it's limiting, I show how the prior art was
3 obvious.

4 In terms of -- I don't remember if it's --
5 if -- if I have, in the IPR, given any other opinion 11:33:12
6 about that I don't think it's limiting. I believe -- I
7 do remember more to the point about the district court
8 declaration. It might be somewhere else. In here, I
9 don't know if I make such a statement.

10 Q Did anyone ask you to give an opinion as to 11:33:41
11 whether a person of ordinary skill in the art would
12 view the preamble of the -- claim 1 of the 416 as
13 limiting in connection with your IPR declaration?

14 MR. JONES: Objection. I'm going to --
15 objection; privilege. 11:34:00

16 I'm going to have to think about this for a
17 second.

18 Can you rephrase your question to either
19 include or exclude counsel?

20 MS. RICHEY: It would -- 11:34:20

21 BY MS. RICHEY:

22 Q Okay. So did --

23 MS. RICHEY: Well, "anyone" would include
24 counsel.

25 MR. JONES: Then I'm going to -- I'm going to 11:34:29

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1 instruct him not to answer, then, on privilege grounds.

2 BY MS. RICHEY:

3 Q Okay. Let me come back to that in just one
4 second.

5 Let me ask you one other question. 11:34:42

6 Are you aware of the legal basis for making
7 the determination of whether a preamble is limiting in
8 a claim?

9 MR. JONES: While he's doing that, Carrie, do
10 you want to mark that, since he's looking at it? 11:36:26

11 MS. RICHEY: His IPR dec- -- or, sorry, his
12 district court --

13 MR. JONES: Yeah.

14 MS. RICHEY: Yeah, I do need to. I actually
15 have a copy myself, but we can go ahead and mark that 11:36:29
16 one.

17 Let's -- for the record, let's mark
18 Dr. Willner's declarations from the district court
19 litigation as Exhibit 2025.

20 (Exhibit 2025 was marked for identification 11:36:43
21 by the court reporter and is attached hereto.)

22 THE WITNESS: Please repeat the question.

23 MS. RICHEY: Can someone read the question
24 back?

25 Court -- Madam Court Reporter, can you read 11:38:52

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1 the question back?

2 THE REPORTER: Yes.

3 (Record read.)

4 THE WITNESS: So I believe that I had been
5 informed, when I was putting together the district 11:39:25
6 court declaration, of some of those issues.

7 BY MS. RICHEY:

8 Q When you say "some of those issues," are you
9 referring to the legal basis for finding a preamble
10 limited or nonlimiting? 11:40:00

11 A Correct.

12 Q Okay. And when you -- did you prepare your
13 district court declaration after your IPR declaration?

14 A The -- I can affirmatively say that the
15 district court declaration was filed after the IPR 11:40:23
16 declaration.

17 Is there any overlap, in terms of do I
18 remember exactly when I started the district court --
19 thinking about the district court issues and relative
20 to the filing of the IPR declaration, I -- I don't -- 11:40:56
21 I'm not sure I remember.

22 Q Were you aware of the legal basis for
23 determining whether a preamble is limiting prior to
24 signing your IPR declaration?

25 A I might have. I don't remember. And that's 11:41:23

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1 why it's, I think -- I just don't remember.

2 Q Is the legal basis for making the
3 determination of whether a preamble is limiting
4 included in your IPR declaration?

5 A I was looking. In terms of the legal 11:43:48
6 standard, I don't remember if it's in here. I was
7 looking, and I haven't found it, but it might be in
8 here somewhere. I don't -- I just don't remember since
9 I didn't memorize my -- my report.

10 Q Okay. And as you're sitting here today, is it 11:45:48
11 true that you can't remember whether or not you were
12 informed of the legal standard to determine whether a
13 preamble is limiting before you prepared and signed
14 your declaration?

15 A So I -- I may have answered that. 11:46:12
16 I don't remember when the issue was discussed.
17 I cannot affirmatively state about the district court
18 declaration. I don't remember about those discussions
19 in terms of the timeframe.

20 Q Okay. 11:46:42

21 A With relation to the IPR declaration.

22 Q Did counsel ask you to render an opinion on
23 whether the preamble is limiting?

24 MR. JONES: Same objection as before.

25 I'm going to instruct you not to answer. 11:46:56

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1 MS. RICHEY: Okay. And so -- this is not a
2 privileged question.

3 MR. JONES: Okay.

4 MS. RICHEY: There's no privilege --

5 MR. JONES: It would be Federal 11:47:10
6 Rule (26)(b)(4), subpart (c).

7 MS. RICHEY: Yeah, I'm looking at that --

8 MR. JONES: And I don't believe it falls into
9 any of the exceptions.

10 MS. RICHEY: Assumptions provided by a party's 11:47:26
11 attorney which the expert relied on when forming their
12 expressed opinions?

13 MR. JONES: You did not ask him about any
14 assumptions.

15 BY MS. RICHEY: 11:47:42

16 Q Dr. Willner, were you asked to assume that the
17 preamble is nonlimiting in rendering your opinion in
18 the IPR?

19 MR. JONES: Can we break for a second so we
20 can discuss privilege? 11:47:56

21 MS. RICHEY: Uh-huh.

22 MR. JONES: It should take three minutes.

23 MS. RICHEY: We can go off the record.

24 THE VIDEOGRAPHER: Okay. This marks the end
25 of media number 2. 11:48:03

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1 The time is 11:48 a.m. We are off the record.

2 (Recess.)

3 THE VIDEOGRAPHER: This marks the beginning of
4 media number 3.

5 The time is 11:53 a.m. We are on the record. 11:52:58

6 MS. RICHEY: Madam Court Reporter, can you
7 read the question back, please?

8 (Record read.)

9 THE WITNESS: I don't remember. I can -- I
10 know -- I know what I did do, but I don't remember. 11:53:27

11 BY MS. RICHEY:

12 Q Okay. You conferred with counsel over a
13 privilege issue and -- for approximately three minutes,
14 and the answer to my question is you don't remember?

15 A Correct. 11:54:10

16 MR. JONES: Just so the record is clear, what
17 he stated was that he doesn't remember and that he
18 knows what he did do.

19 BY MS. RICHEY:

20 Q Did you assume that the preamble was 11:55:15
21 nonlimiting in rendering any portion of your opinion?

22 A I -- I'm not quite sure what the question is.

23 Are we -- in my opinion -- are we talking
24 about the IPR opinion?

25 Q Yeah, I can ask it again. 11:55:34

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1 Did you assume that the preamble was
2 nonlimiting in rendering any portion of your opinion in
3 the IPR?

4 A In the IPR, I was, I believe, agnostic about
5 that. I -- if -- if it was limiting, to the extent it 11:55:57
6 was limiting, I have that, and I -- to the extent it
7 wasn't limiting.

8 And I should really be careful using the word
9 "agnostic" since I don't know the exact definition.

10 But I just -- I didn't assume either one. 11:56:21
11 I -- I gave an answer -- I -- I provided opinions that
12 was in -- if -- if this, then here's -- here's my
13 opinion, and if not, then here's my opinion.

14 Q Okay. Can we look at paragraph 125 of your
15 IPR declaration. 11:56:47

16 So after providing an opinion on the
17 construction for "stopped" and "focusing means," you
18 state in paragraph 125 that the remaining technical
19 terms should receive their plain meaning. For example,
20 "lasers," "optical fiber," "collimating lenses," 11:57:38
21 "wavelengths" and so on as well understood and are used
22 in the context of the claims and the specification in
23 their usual way in this art.

24 A So that was paragraph 125?

25 Q Paragraph 125. 11:58:00

1 I'm going to start my question over.

2 After construing the terms "focusing means"
3 and "stopped," you state, in paragraph 125, that the
4 remaining technical terms should be given their plain
5 meaning, and you list a few of those, I guess,
6 technical terms.

11:58:22

7 Do you see that?

8 A Yes.

9 Q And the term "optical combiner" is not listed;
10 correct?

11:58:34

11 A Correct. It's not -- well, I have to be
12 careful. When -- it's not one of the specific ones
13 listed, but -- because I looked at optical combiner to
14 the extent the preamble is limiting, to the extent the
15 preamble isn't limiting.

11:58:58

16 So to the extent the preamble is limiting,
17 then that would be a term that would be given its plain
18 and ordinary meaning.

19 Q Okay.

20 A And that would be included under, you know,
21 "and so on."

11:59:15

22 Q Okay. So let's drop down to paragraph 126,
23 which does address -- or does state the plain and
24 ordinary meaning.

25 So you stated that "other than my analysis of

11:59:34

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1 specific terms above" other terms should be provided
2 their plain and ordinary meaning.

3 Is -- is it your opinion that any of the two
4 terms that you didn't construe, the "focusing means"
5 and "stopped," besides those two terms, every other 12:00:03
6 term should be given a plain and ordinary meaning?

7 MR. JONES: Objection; compound, form.

8 THE WITNESS: So -- so this is, I believe, the
9 issue of terms that I've considered, and I give just
10 some examples here: lasers, optical fiber, collimating 12:00:43
11 lenses, wavelengths, and so on.

12 "So on" would be other terms.

13 To the issue of optical combiner, if it's not
14 limiting, or if it's limiting; right? If it's
15 limiting, then that would be a term that I would apply 12:01:12
16 its plain and ordinary meaning.

17 BY MS. RICHEY:

18 Q Okay. So from using the phrase "and so on" in
19 paragraph 125 of your IPR declaration, are you making
20 reference to the term "optical combiner"? 12:01:30

21 A I -- I believe that "optical combiner" is a
22 term that -- to the extent that the preamble is
23 limiting, I've understood it with its plain and
24 ordinary meaning.

25 Q Okay. And in your district court declaration, 12:01:54

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1 you gave a plain and ordinary meaning of optical
2 combiner as a device that combines multiple out- --
3 multiple inputs into an output; is that correct?

4 A So I believe in my district court declaration
5 I say that the plain and ordinary meaning of an optical 12:04:29
6 combiner is a device that combines multiple optical
7 inputs into an output.

8 Q Okay. Thank you.

9 Can you tell me what an output means in that
10 definition? 12:04:53

11 A One can define this element as having an in
12 and an out. So the output is what would come out.

13 Q Come out of what?

14 A Of the optical combiner.

15 Q Does the output need to be multiplexed? 12:05:53

16 MR. JONES: Objection; form.

17 THE WITNESS: I'm not sure if I've given that
18 opinion.

19 Is there someplace in my report that I might
20 have given that opinion? 12:07:47

21 BY MS. RICHEY:

22 Q No. I'm -- this is the question. I'm trying
23 to understand what output means. So I'm just trying to
24 understand if there is any sort of limits on the
25 output. 12:07:59

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1 So my question is, under the -- under your
2 plain and ordinary meaning, the output that leaves the
3 optical combiner, does the outpoint need to be
4 multiplexed?

5 MR. JONES: Objection; form. 12:08:18

6 THE WITNESS: So I haven't -- I don't believe
7 I've given a definition of multiplex, and so I would
8 want to first give a definition, think about,
9 accurately, what may or may not be included and then
10 try to apply that to the -- the term, and I would fine 12:08:39
11 that hard to do as we sit here. I'd want to give you
12 an accurate answer.

13 BY MS. RICHEY:

14 Q When you hear the term "multiplexed," how do
15 you understand the term? 12:09:03

16 MR. JONES: Objection; form.

17 THE WITNESS: Is there a piece of art that --
18 "multiplex" is a term that may have different
19 connotations to it, so, again, trying to give
20 definitions would be something I'd want to think hard 12:09:32
21 about.

22 BY MS. RICHEY:

23 Q Do you have an opinion of how a person of
24 ordinary skill in the art would have understood the
25 term "multiplexing"? 12:09:50

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1 MR. JONES: Objection; form, incomplete
2 hypothetical.

3 THE WITNESS: A person of ordinary skill would
4 have -- have heard the term, would have some ideas
5 about it, but in -- in terms of definitions, I would be 12:10:19
6 very careful about what a -- now to say exactly what a
7 person of ordinary skill would know about the -- the
8 general term "multiplex." I'd want to give you an
9 accurate -- an accurate answer.

10 BY MS. RICHEY: 12:10:43

11 Q Okay. And you're not prepared to do that
12 today; correct?

13 A I'd like to give you -- I'd like to consider
14 it carefully.

15 Q Okay. So let's go back to your definition, a 12:10:51
16 device that combines multiple outputs [sic], plural,
17 into an, singular, output.

18 Is there a reason why you chose plural, as in
19 multiple outputs [sic], and then a singular output?

20 MR. JONES: Carrie, just so we have a clean 12:11:18
21 record, you said "output" when you read it. You may
22 want to reask your question.

23 MS. RICHEY: Wait, which one did I say was
24 wrong?

25 MR. JONES: You said "output" twice. 12:11:29

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1 MS. RICHEY: Oh, okay. So -- all right. Let
2 me try -- that was just -- let me try again.

3 BY MS. RICHEY:

4 Q In the definition of a device that combines
5 multiple optical inputs, plural, into an output, 12:11:36
6 singular, is there a reason why you chose plural for
7 the inputs and singular for the output?

8 A So the output, it's -- there is an output that
9 I'm referring to. There -- the idea of multiple
10 optical inputs is the idea of combining, to take 12:12:13
11 multiple inputs, combine them, into an output.

12 Q Okay. And for -- so an output, you're meaning
13 a singular output?

14 A I'm not quite sure -- so you're using the term
15 "singular." I don't believe that the word "singular" 12:12:51
16 is -- is in there. So I -- I wouldn't want to adopt
17 the term unless I would understand the -- what you --
18 what -- what may be referred to as singular.

19 Q Well, that's in refer- -- ref- -- referring to
20 the "an" in the definition as being a singu- -- an 12:13:15
21 article for a singular object --

22 A So --

23 MR. JONES: Objection.

24 BY MS. RICHEY:

25 Q -- which is output. 12:13:30

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1 MR. JONES: Objection; form, to the extent
2 there's a question.

3 THE WITNESS: So are you -- are you saying I
4 should -- the question is taking the word "an" and
5 replacing it with "a singular"? 12:13:42

6 BY MS. RICHEY:

7 Q Yes.

8 A Ah. So I would -- again, because we're
9 changing the words, I spent a fair amount of time being
10 careful about the wording, so I'd want to think about 12:13:58
11 what the -- what -- what the boundary conditions are
12 for using that term.

13 Q Okay. But you're -- so you're not prepared to
14 do that right now?

15 A In terms of a definition, I'd want to be 12:14:10
16 accurate about it.

17 Q Okay. Maybe it would be helpful to do this in
18 the context of an example.

19 Can we look at Exhibit 1004, which you should
20 have? 12:14:32

21 Do you have that in front of you?

22 Can you flip to figure 6?

23 MR. JONES: This is 1004?

24 MS. RICHEY: Oh, sorry, I wrote -- oh, I'm so
25 sorry, it's the wrong one. Hold we. I wrote the wrong 12:15:49

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1 exhibit number down.

2 We should be looking at 5. Sorry, 1005,
3 Figure 6.

4 Okay. Is it different or marked up or
5 anything? 12:15:52

6 THE WITNESS: I thought it didn't have a
7 staple.

8 MS. RICHEY: Okay.

9 THE WITNESS: I was incorrect.

10 Oh. Yeah, here -- here, here it is. 12:17:00

11 It will take me just a second.

12 BY MS. RICHEY:

13 Q So are you familiar with the reference
14 LaMarche?

15 A Yes, I am. 12:17:46

16 Q And is that the reference that you're --
17 that's in front of you right now?

18 A I believe it is.

19 Q Okay. And you're looking at figure 6;
20 correct? 12:17:55

21 A Yes.

22 Q Okay. Does figure 6 show an optical combiner?

23 A Are -- are you asking me if I've relied upon
24 LaMarche in any of my grounds as the optical combiner?

25 Q No. 12:18:39

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1 A So -- so is this about an optical combiner of
2 the claims?

3 Q Yeah, so we were just talking about the plain
4 and ordinary meaning of optical combiner, and I was
5 trying to understand what an output is. And I thought 12:18:54
6 we would be able to use an example, and I wanted to use
7 LaMarche as an example to determine whether or not the
8 system in figure 6 meets the plain and ordinary meaning
9 of optical combiner.

10 MR. JONES: Objection; form. 12:19:21

11 THE WITNESS: So if we're talking about an
12 optical combiner, if -- if the preamble is limiting,
13 and then -- there would be meaning to optical combiner,
14 then I haven't used LaMarche. I don't believe I've
15 used LaMarche as -- for optical combiner. I use 12:19:46
16 LaMarche in other ways.

17 So if I'm now going to do an analysis of is
18 LaMarche an optical combiner of the claims, that would
19 take me a while in order to accurately do so.

20 I know affirmatively what I use LaMarche for 12:20:18
21 and -- and that I can explain.

22 But in terms of trying to describe more
23 detail, an analysis would -- would be appropriate to
24 give an accurate answer.

25 ///

1 BY MS. RICHEY:

2 Q Okay. You're familiar with the
3 light-receiving devices that are referred to in
4 LaMarche -- LaMarche?

5 MR. JONES: Objection; form. 12:21:11

6 THE WITNESS: I believe LaMarche describes
7 different embodiments, different ways of describing
8 light-receiving devices. I -- it would be hard for me
9 to give an affirmative answer to all of that.

10 BY MS. RICHEY: 12:21:51

11 Q To say that you're familiar with the
12 light-receiving devices that are described or taught by
13 LaMarche?

14 A Oh, so I --

15 MR. JONES: Objection; mischaracterizes 12:21:57
16 testimony.

17 And so maybe you want -- I don't know if
18 there's a question.

19 Sorry, I didn't mean to interrupt.

20 Do you want to repeat the question? 12:22:05

21 BY MS. RICHEY:

22 Q So I was asking if you are -- are you familiar
23 with the light-receiving devices that are disclosed or
24 taught by LaMarche?

25 A So LaMarche describes various light-receiving 12:22:24

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1 devices. I have familiarity. And in terms of saying
2 I'm familiar with all of them, I'd want to read
3 through, I'd want to familiarize myself -- I haven't
4 memorized LaMarche.

5 Q And could you say today whether or not the 12:22:48
6 light-receiving devices are receiving an output?

7 MR. JONES: Objection; vague.

8 THE WITNESS: So I'd want to look at a very
9 specific example.

10 So given that there are different embodiments, 12:23:12
11 I'd like to look at specific light-receiving devices,
12 consider that.

13 I believe we're now using a word, "output,"
14 which relates very much to the claim construction of
15 the optical combiner, which makes it all the more 12:23:38
16 reason for me to be very accurate about it.

17 So I'd -- I'd want to consider that before
18 being able to say. I'd like to analyze that for an
19 accurate answer.

20 BY MS. RICHEY: 12:23:58

21 Q Okay. So as you sit here today, you will not
22 tell me one way or the other whether the
23 light-receiving devices receive an output?

24 MR. JONES: Objection; mischaracterizes
25 testimony. 12:24:14

1 THE WITNESS: So there's a lot of things about
2 LaMarche that I know and I'm familiar with. Given that
3 we're now trying to use a word that's part of the --
4 what I have put down as my understanding of the plain
5 and ordinary meaning of optical combiner and then 12:24:36
6 trying to use that word and apply it to an example,
7 that would be something that I'd want to consider in
8 detail to give you an accurate answer.

9 BY MS. RICHEY:

10 Q Okay. Fair enough. 12:24:58

11 Did you read the institution decision?

12 A I -- I have seen the institution decision.

13 Q Okay. The board says that, quote, (as read):

14 "We give weight to the preamble
15 claim term optical combiner because it 12:25:18
16 is needed to specify the type of
17 device being claimed."

18 Are you aware of that?

19 A Is --

20 MR. JONES: Objection. 12:25:28

21 BY MS. RICHEY:

22 Q Oh, it's -- yeah, it's there.

23 A The decision granting IPR?

24 Q Yeah. Page --

25 THE WITNESS: I'm fine to continue further, 12:26:02

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1 but if -- if you want to break for -- or if anybody is
2 hungry, the -- you're -- you're welcome to. I can -- I
3 can break if you're hungry. And that goes for the
4 court reporter, too.

5 MR. JONES: I'm okay if you are, Carrie. 12:26:12

6 MS. RICHEY: Yeah.

7 THE WITNESS: Are -- are you okay?

8 THE VIDEOGRAPHER: Right now, yes.

9 THE WITNESS: Okay. If I see you faint, I'm
10 stopping. 12:26:36

11 THE VIDEOGRAPHER: Okay.

12 THE WITNESS: Ms. Richey, where -- where
13 should I look in the --

14 BY MS. RICHEY:

15 Q Okay. Well, before you consider the -- the 12:26:45
16 paper, I asked if you were aware that the board said
17 "we give weight to the preamble claim term 'optical
18 combiner' because it is needed to specify the type of
19 device being claimed."

20 Are you aware of that? 12:26:57

21 A It sounds like something I've -- I read.

22 Q Okay. And are you aware that the board did
23 not offer a complete claim construction for the term
24 "optical combiner"?

25 MR. JONES: Objection; form. 12:27:11

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1 THE WITNESS: So in terms of understanding
2 what the -- what the granting decision -- what should I
3 call it?

4 Q Institution decision?

5 A Institution decision. 12:27:32

6 So in terms of what the institution decision
7 did and did not do -- I've seen this. But in terms
8 of -- to -- to give a -- give an affirmative -- I guess
9 a negative, what it did not do, I'd have to be -- look
10 at it much more closely. 12:27:46

11 Q Okay. And did you -- are you aware that the
12 board state, in the institution decision, that during
13 trial, the parties can address what the ordinary and
14 customary meaning of the claim term "optical combiner"
15 would be to one of ordinary skill in the art? 12:28:06

16 A That sounds like -- it -- I -- I -- it sounds
17 like something I read. I -- I -- I'm assuming you're
18 reading from it.

19 Q Yeah.

20 A It sounds familiar. 12:28:20

21 Q Okay. And are you aware that the board
22 acknowledged that the optical combiner is more than
23 just individual components?

24 MR. JONES: Objection; form, characterization.

25 THE WITNESS: Yeah, so if you -- in terms 12:28:51

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1 of -- anything you might read from -- my apologies,
2 Ms. Richey, but anything you might read from here, I --
3 I probably have read, and -- and I -- I sort of accept
4 that that's what they wrote.

5 What it -- what it means, I'd have to really 12:29:07
6 look at and -- and think carefully about, you know,
7 the -- the -- the nuances that might be in there,
8 the -- the issues that are being conveyed.

9 So the text is the text, and I did read it.

10 What it means, I want to -- I'd want to 12:29:30
11 consider that in great detail.

12 BY MS. RICHEY:

13 Q Okay. Do you agree with the institution's
14 decision in finding that the optical combiner is the
15 limiting term? 12:29:52

16 MR. JONES: Objection; form.

17 THE WITNESS: I -- I -- I haven't analyzed
18 the -- the institution decision to be able to give an
19 opinion about my agreement or disagreement and to the
20 extent other than what I've already given in my IPR 12:30:22
21 declaration and district court declaration.

22 BY MS. RICHEY:

23 Q Okay. We're going to turn to the term
24 "stopped," but before I do that, do you think it was
25 important to have read the institution decision closely 12:30:45

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1 before your deposition today?

2 MR. JONES: Objection; form.

3 THE WITNESS: I was being deposed on my --

4 I -- I read it. I did read it.

5 BY MS. RICHEY: 12:31:21

6 Q Did you read the portion where the board
7 acknowledged that the 416 specification discloses an
8 integrated monolithic molded optical combiner but also
9 indicates that the optical combiner claimed in the
10 challenge claims is not limited to such a structure but 12:31:39
11 rather includes an optical combiner that is comprised
12 of components that are integrated sufficiently to
13 combine multiple optical inputs into an optical output
14 focused onto an optical fiber?

15 A That sounds -- 12:31:55

16 Q Do you --

17 A -- famil- --

18 MR. JONES: Objection.

19 If -- Carrie, if you're going to read it, I'd
20 ask that you please read it fully and correctly. 12:32:00

21 MS. RICHEY: Okay. Well, my question is are
22 you aware and if he -- he can answer. I'm not --
23 that's my question.

24 So I --

25 MR. JONES: All right. To the extent that 12:32:13

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1 you're characterizing that as an accurate reading of
2 the institution decision, I object.

3 MS. RICHEY: Okay.

4 THE WITNESS: So the passage you read sounds
5 familiar. I believe I read it. 12:32:26

6 BY MS. RICHEY:

7 Q Okay. Now, in your IPR declaration, you
8 stated that a person of ordinary skill in the art would
9 have understood the term "stopped" to mean fixed in a
10 spatial sense such that movement in a spatial dimension 12:32:45
11 is substantially limited; is that correct?

12 A Correct.

13 Q And I can direct you to the paragraph 122.

14 MR. JONES: Do you remember the question?

15 Can we have it read back? 12:33:38

16 MS. RICHEY: Madam Court Reporter, can you
17 read back the pending question?

18 (Record read.)

19 BY MS. RICHEY:

20 Q Sorry, I'll ask it again. 12:33:56

21 In your IPR declaration, you opined that a
22 person of ordinary skill in the art would have
23 understood the term "stopped" to mean fixed, in that
24 fixed is used in a spatial sense, such that movement in
25 a spatial dimension is substantially limited; is that 12:34:19

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1 correct.

2 A Okay. I believe that a person of ordinary
3 skill would have understood "stopped" to mean fixed, in
4 terms of the language of the claim.

5 And as you noted, fixed is -- would be 12:37:51
6 understood in a spatial sense, such that the movement
7 in a spatial dimension is substantially limited.

8 Q And is -- is it true that the term "stopped"
9 is not a term of art?

10 A I think it depends on -- "stopped," are you 12:38:23
11 referring to stopped optical fiber or stopped as its
12 own term outside the claims?

13 Q Well, you construe the term "stopped," and I
14 think you opined that in the context of the claims, the
15 word "stopped" is not a -- did not have a meaning that 12:38:43
16 would be -- a plain and ordinary meaning as understood
17 by a person of ordinary skill in the art at the time of
18 the invention.

19 So I'm asking, then, is "stopped" not a term
20 of art? 12:39:04

21 MR. JONES: Objection; form.

22 THE WITNESS: So I think the word "stopped" is
23 not typically used to describe optical fibers in this
24 field.

25 ///

1 BY MS. RICHEY:

2 Q Okay. So if a person of ordinary skill in the
3 art is reading the claim, stopped single optical fiber,
4 that phrase is not -- would not have a term of art to a
5 person of ordinary skill in the art; is that correct? 12:39:56

6 MR. JONES: Objection; form.

7 THE WITNESS: So there's a term of art that is
8 part of the question.

9 MS. RICHEY: Uh-huh.

10 THE WITNESS: Of course, skill in the art is 12:40:07
11 part of a POSITA.

12 The -- I think a person of ordinary skill
13 would read -- read the claim.

14 And without considering the issues that are
15 part of the patent, that it's -- it's not something 12:40:35
16 that would have a plain and ordinary meaning in the way
17 it is used in the claim.

18 BY MS. RICHEY:

19 Q Okay. And would -- would "stopped single
20 optical fiber" be considered a term of art to a person 12:41:03
21 of ordinary skill in the art at the time of the
22 invention?

23 MR. JONES: Objection; form.

24 THE WITNESS: So I -- I may have answered
25 that. 12:41:16

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1 I think that a person of ordinary skill would
2 read "stopped optical fiber" and they would not --
3 since it's not typically used to describe optical
4 fibers, stopped, it would not have a plain and ordinary
5 meaning. 12:41:55

6 BY MS. RICHEY:

7 Q Okay. Can you go to paragraph 172 of your
8 declaration?

9 MR. JONES: Carrie, it's about 12:45. If
10 we're jumping to a new topic, it makes sense to break 12:42:20
11 for lunch.

12 MS. RICHEY: Still in the context of
13 "stopped," but -- but I'm happy to just pause. I mean,
14 it's a good time to pause.

15 MR. JONES: I think that makes sense. 12:42:28

16 MS. RICHEY: Yeah.

17 THE VIDEOGRAPHER: Do you want to stop now?

18 MS. RICHEY: Yeah, we can stop.

19 THE VIDEOGRAPHER: Or -- okay.

20 This marks the end of media number 3. 12:42:36

21 The time is 12:42 p.m. We are off the record.

22 (Lunch recess.)

23 THE VIDEOGRAPHER: This marks the beginning of
24 media number 4.

25 The time is 1:36 p.m. We are on the record. 01:35:54

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1 BY MS. RICHEY:

2 Q All right. Good afternoon, Dr. Willner.

3 Right before we were breaking, I was going to
4 have you flip to paragraph 172 of your IPR declaration,
5 and I see that you're on that page. 01:36:12

6 A Good afternoon.

7 Q So at paragraph 172, you talk about a stopped
8 single optical fiber in the context of the Kurita
9 reference and -- let me try to find it. It's a long
10 paragraph. 01:36:41

11 Kind of midway through, you say (as read):

12 "If the optical fiber was not
13 (spatially) fixed (i.e., 'stopped'),
14 then this requirement of Kurita would
15 not make much sense. If the fiber -- 01:36:59
16 optical fiber were not fixed, it would
17 be highly problematic for the beams to
18 converge onto 'one point' (the
19 location of the optical fiber for
20 coupling light into) to converge onto 01:37:11
21 an end of the optical fiber."

22 Do you see that section of your -- of
23 paragraph 72?

24 A I believe that's in the middle of page 113,
25 starting with the word "if"? 01:37:25

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1 Q Yes.

2 A And then you -- I believe you read until --
3 basically, two sentences --

4 Q Yes.

5 A -- before "fixing." 01:37:36

6 Q Correct.

7 A Yes.

8 Q Okay. And then the next sentence you said
9 (as read):

10 "Fixing the optical fiber 01:37:42
11 therefore allows for proper operation
12 of the device in Kurita..."

13 So my question is, wouldn't the fiber need to
14 be aligned to allow for the proper operation of Kurita?

15 A The proper operation of -- of Kurita would be 01:38:06
16 where the light is focused onto the optical fiber and
17 that the fiber itself would need to be fixed.

18 I'm not quite sure what your -- what you mean
19 by "aligned."

20 Q So the fiber would need to be in aligned with 01:38:59
21 the -- with lens 30 in order for the proper -- for the
22 proper operation of the device in Kurita?

23 MR. JONES: Objection; form.

24 THE WITNESS: So I -- I believe in my previous
25 answer, I was not sure what the word, as you're using 01:39:19

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1 it, what its definition would be.

2 BY MS. RICHEY:

3 Q You don't know what it means to be in
4 alignment?

5 A So it's a term -- please repeat the question. 01:39:34

6 MS. RICHEY: Madam Court Reporter, can you
7 please repeat the question?

8 (Record read.)

9 THE WITNESS: So I have an understanding of
10 what it means to be in alignment. 01:42:21

11 BY MS. RICHEY:

12 Q Okay. And what's your understanding of --
13 of -- to be in alignment?

14 A That the light, in the context of the claims
15 and the context of the patent, that as far as I know -- 01:42:35
16 I don't remember if align -- I don't think "alignment"
17 is actually a word of the claims. So, therefore, I'll
18 just say of the patent, of the specifications.

19 Alignment is where the optical path is -- is
20 such that it -- the -- that it -- the light goes where 01:43:12
21 it's supposed to go.

22 Q Okay. Sorry, excuse me.

23 And so looking at the term "fixed" in a
24 spatial sense such that movement in a spatial dimension
25 is substantially limited, isn't it possible for a fiber 01:43:34

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1 to be fixed, but not in alignment?

2 MR. JONES: Objection; form. Objection;
3 foundation.

4 THE WITNESS: When you say "a fiber," are we
5 talking about the fiber of the claim or a fiber in 01:43:56
6 general?

7 BY MS. RICHEY:

8 Q Well, we're talking about -- let's tie it back
9 to Kurita.

10 You said that the optical fiber would need to 01:44:09
11 be fixed -- so let me say exactly what you said. Let
12 me start over.

13 (As read):

14 "Fixing the optical fiber
15 therefore allows for proper operation 01:44:18
16 of the device in Kurita..."

17 So when you're fixing the fiber, isn't it
18 possible that a fiber could be fixed but out of
19 alignment?

20 A Well, what I say here is about the -- the 01:44:36
21 fiber of Kurita.

22 For Kurita to function properly, the fiber
23 that's there would -- would be fixed.

24 Q Okay. And would the fiber be in alignment as
25 well? 01:45:06

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1 A Please repeat the question.

2 MS. RICHEY: Madam Court Reporter, can you
3 please repeat the question?

4 (Record read.)

5 THE WITNESS: So Kurita is talking about a -- 01:48:29
6 a device that functions properly.

7 Alignment is something that -- alignment of
8 the optical beams so that they go where they're
9 supposed to.

10 BY MS. RICHEY: 01:49:16

11 Q Okay. So --

12 MR. JONES: Let him --

13 MS. RICHEY: Oh, sorry.

14 MR. JONES: Please let him finish.

15 BY MS. RICHEY: 01:49:19

16 Q I thought you were done. You were just
17 pausing.

18 A I'm done.

19 Q Okay. So in Kurita, the lights go where it's
20 supposed to go. It states -- Kurita states that the 01:49:26
21 lights are supposed to converge at one -- at one point
22 with the -- with lens 30 to be entered to one end of
23 the optical fiber.

24 So the light is supposed to go to the end of
25 the -- an end portion of the optical fiber. 01:49:44

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1 So wouldn't you agree that the fiber needs to
2 be in alignment for it to receive the light from the
3 lens?

4 A Were -- were you reading from 172?

5 Q Yeah. Which is a quote from Kurita. 01:50:03

6 A Please, which -- where -- where was --

7 Q So I'm reading from where your declaration is
8 bolded and in italics, which I presume is stressing the
9 point that the light is converged onto a point at the
10 end of the fiber. 01:50:47

11 A Uh-huh.

12 Q So if that's where it's supposed to go,
13 shouldn't the fiber be in alignment?

14 A Kurita -- Kurita's device, when functioning,
15 right, Kurita's functional device, the light would be 01:51:22
16 propagating where it's supposed to go, that each of the
17 components -- well, the -- the -- the optical fiber is
18 a stopped optical fiber that -- where it's fixed so
19 that the light is aligned to go where it's supposed to
20 go. 01:51:52

21 Q Okay. So -- but your definition of "fixed" is
22 spatially -- in a spatial sense, in that it's -- it
23 substantially limits movement. It doesn't say anything
24 about alignment.

25 So is it possible for a fiber to be fixed, but 01:52:14

1 not in alignment?

2 MR. JONES: Objection; form.

3 THE WITNESS: Is it possible for Kurita --

4 Kurita's stopped optical fiber to be fixed and not in

5 alignment? 01:52:35

6 BY MS. RICHEY:

7 Q I'm asking you, under the definition that

8 you're applying, your claim construction that you're

9 applying to the term stopped optical fiber, which to me

10 only says that it's fixed in space, has no element of 01:52:50

11 being in alignment.

12 So a fiber can be fixed, but out of alignment,

13 meaning the light's now going where it's supposed to

14 because the fiber is here and the light is here.

15 So I'm trying to understand if the terminology 01:53:04

16 that you're using or the definition that you're using

17 for "fixed" also requires the fiber to be in alignment

18 so it works -- the device works the way it's supposed

19 to, which is what you've said a fixed fiber would do in

20 Kurita. 01:53:19

21 MR. JONES: Objection; form. Objection;

22 compound. Objection; vague.

23 THE WITNESS: So I've used the -- stopped

24 particle fiber that -- stopped optical fiber would be a

25 fiber fixed in space, but it's fixed in space in the 01:53:42

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1 place where it is supposed to be. So that's where
2 the -- where the light in the other parts of the prior
3 art, Kurita, that the light goes to the -- goes to that
4 fiber.

5 I don't use the word "alignment" in this 01:54:13
6 paragraph. Or at least -- I don't know if I do. I
7 can -- I can read it just to see if it's here, but...

8 BY MS. RICHEY:

9 Q So is it your --

10 MR. JONES: Dr. Willner, are you -- were you 01:54:43
11 done with your answer?

12 THE WITNESS: I was going to look to -- just
13 to -- to see if I used the word "alignment" in -- in
14 this description.

15 But whatever the definition is for alignment, 01:54:57
16 which we -- I'm using it in a very -- in a way that --
17 I'm not defining it, per se. My understanding is that
18 the light is supposed to -- that goes where it's
19 suppo- -- goes where it's supposed to, in Kurita, and
20 such that the stopped optical fiber is fixed in space 01:55:22
21 there.

22 And to the extent that anybody wants to define
23 that as alignment, that's -- that might be one way of
24 looking at it.

25 ///

1 BY MS. RICHEY:

2 Q Okay. So would a person of ordinary skill in
3 the art, in reading the term "stopped optical" --
4 "optical combine" -- "optical fiber," as used in the
5 416 patent, understand that the fiber is fixed in place 01:55:49
6 so it is in alignment?

7 A Are -- would that be changing the
8 construction?

9 Would I -- would -- would this be a -- adding
10 so that it is in alignment be -- be part of the -- 01:56:15
11 the con- -- the -- the constructed term?

12 Q Well, that's what I'm asking you, is a fixed
13 fiber also a fiber that is in alignment, under the --
14 the -- the construction that you have provided in your
15 declaration that a person of ordinary skill in the art 01:56:40
16 would understand?

17 A So now I think I -- I'm -- I'm better...

18 The claim -- the -- the term -- I -- I try to
19 give a construction. That doesn't include the word
20 "alignment" in it. It -- there -- I -- I gave the -- 01:56:56
21 the -- it's fixed. Stopped optical fiber is fixed.

22 How would a person of ordinary skill then read
23 the whole claim and -- and how it functions and Kurita
24 and so on, that's different.

25 I've given the claim term -- excuse me. 01:57:14

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1 I've given the construction, I think, to
2 stopped optical fiber.

3 Stopped optical fiber is -- in my opinion, is
4 an optical fiber fixed space. I'm not adding to that
5 alignment as -- as a -- as the term. 01:57:31

6 How would a person of ordinary skill in the
7 art understand the -- the operation of Kurita, how
8 would a person of ordinary skill in the art understand
9 the claim, that -- that goes beyond what I gave as the
10 construction. 01:57:53

11 Q Got it. So when you opined in your
12 declaration that fixing the optical fiber therefore
13 allows for proper operation of device in Kurita, you
14 would also agree that the fiber has to be in alignment
15 for the device to work properly; correct? 01:58:06

16 A Well, I think the -- I'm using the term
17 "fixed." It has to be -- well, I'll just go read it
18 just -- just so I refresh my memory here.

19 If the fiber was not spatially fixed then
20 the -- this requirement of Kurita, to be focused at one 01:58:34
21 point, converged at one point, wouldn't make much
22 sense.

23 So to the extent that any word of "alignment"
24 fits into this -- the sentence, that's really to the
25 extent of how one would understand that the light is -- 01:58:54

1 for -- and for Kurita to -- to function, it -- it has
2 to converge -- right? It says the beams converged at
3 one point. To the extent that that implies some
4 alignment for its operation, then so be it.

5 But I certainly wouldn't put the word 01:59:18
6 "aligned" in a -- in a claim construction.

7 Q Okay. Do you understand that the reason why
8 you provide definitions for certain terms is so that
9 you can use those and apply them to the prior art?

10 MR. JONES: Objection; form. 01:59:53

11 THE WITNESS: So I'm familiar with trying to
12 construe claim terms so that they can be understood and
13 applied to the -- the patent at issue, to prior art,
14 if -- if one is trying to apply the claims of a patent
15 to a prior art. 02:00:26

16 BY MS. RICHEY:

17 Q So wouldn't the fiber need to be fixed and in
18 alignment to allow for the proper operation of Kurita?

19 A Well, I -- again, we -- we may be kind of
20 saying the same thing. 02:00:57

21 I mean, I -- I'm not supposed to ask you any
22 questions, so I won't, but, you know, it seems to me
23 that, you know, if -- if I just -- you know, reading
24 paragraph 172, it says what it says in this -- in -- in
25 that the light is supposed to go where it's supposed to 02:01:17

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1 go in Kurita.

2 A stopped optical fiber, as a -- as a claim
3 term, I've -- I've given my understanding of that
4 for -- for claim construction, but then one would apply
5 that in the context of the entire claim and then look 02:01:39
6 at the entire claim and see how that then can be
7 applied to prior art.

8 I'm not sure that -- so my claim construction
9 stays the way it is. It's not -- it's not changing.

10 Q But my question wasn't related to claim 02:02:00
11 construction.

12 I said, wouldn't the fiber need to be fixed
13 and aligned to allow for the proper operation of
14 Kurita?

15 A The operation of Kurita is where the beams of 02:02:15
16 light are converged onto one point, the optical fiber.
17 So -- and that optical fiber is a stopped optical
18 fiber. So if it's not aligned, would Kurita -- would
19 Kurita function? To the extent that the alignment
20 is -- if the beams don't go where they're supposed to, 02:02:53
21 then that -- that's, I think, my point here, is that
22 that's why I feel fixed is the -- the way to understand
23 it.

24 Because if it wasn't fixed, then the light
25 wouldn't be -- you know, we want to ensure -- we -- 02:03:20

1 Kurita, the light supposed to go somewhere.

2 So to the extent that the light is supposed to
3 go where it's supposed to go, you would need a stopped
4 optical fiber. It's fixed in the location it's
5 supposed to be at.

02:03:39

6 To the extent that that has alignment, then
7 it's aligned.

8 Q Okay. And we've been using those term- -- a
9 person of ordinary skill in the art. I just want to
10 clarify that we're talking about at the time of the
11 invention. And I'm going to use the definition that's
12 in your declaration. I just want to be clear that's
13 what you've been doing all along when we use that term.

02:03:58

14 A And the -- my IPR declaration.

15 Q IPR declaration, yes.

02:04:20

16 Okay. Can you provide some examples that a
17 person of ordinary skill in the art would have known --
18 let me try to say that a different way.

19 An example -- can you provide examples of how
20 a -- of what a person of ordinary skill in the art
21 would have understood as -- as ways to stop an optical
22 fiber?

02:04:44

23 Did that make sense?

24 I can try to rephrase that again. It's a
25 mouthful.

02:04:59

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1 MR. JONES: Objection; form.

2 BY MS. RICHEY:

3 Q Do you want me to try to rephrase that again?

4 From the perspective of a person of ordinary

5 skill in the art, what are the ways in which a fiber 02:05:15

6 may be fixed?

7 A I think a fiber could be held in place by

8 various approaches.

9 And I'm guessing when you say how should a

10 fiber be fixed, you're saying how could we have a 02:06:14

11 stopped optical fiber.

12 Q I'm asking -- I'm asking for examples of how

13 to fix an optical fiber, various -- it could be methods

14 of how a fiber would be fixed in space under your

15 definition of -- of stopped. 02:06:44

16 A Yeah. So stopped optical fiber, which is

17 fixed spatially, one, the fiber itself could be part of

18 a connector of some sort, and there could be some sort

19 of a physical mating.

20 Q Can you repeat that? 02:07:25

21 A Physical mating.

22 Q Do you have any other examples of how to fix a

23 fiber?

24 A That's -- that's -- that's a fairly good one.

25 Q Okay. Let's go -- I'm going to ask you 02:07:46

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1 questions about each one of those.

2 So you said, "part of a connector of some
3 sort."

4 Can you explain what you mean by that?

5 A Sure. I think that one of the prior art 02:07:56
6 exhibits is a fairly good example of that, of -- it's
7 been referred to as Lemoff.

8 And so Lemoff describes something that would
9 be, I think, fixed spatially.

10 Q And can you identify what you -- what the 02:08:26
11 something is in Lemoff?

12 A I believe Lemoff is Exhibit 1006?

13 Q Correct.

14 A Okay. So Lemoff teaches that its receptacle
15 and ferrule arrangement form a connector by means of 02:12:40
16 which various optical fibers may be plugged into or
17 removed from an optical signal emitter.

18 Q Okay. Besides the receptacle and ferrule --

19 A Oh.

20 Q -- arrangement -- oh, sorry, I thought you 02:13:14
21 were done.

22 A And the -- and I state that it's an efficient
23 and straightforward approach for attaching an optical
24 fiber in a substantially fixed spatial position for
25 light coupling. 02:13:36

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1 I'm sorry.

2 Q Okay. Thank you.

3 Besides the receptacle and ferrule arrangement
4 disclosed in Lemoff, is there any other example of
5 fixing a fiber that would fall under the first category 02:13:53
6 you gave, which was "part of a connector of some sort"?

7 A There could be.

8 Q Okay. Well, what are they?

9 A Various examples.

10 I believe another example could be in what's 02:14:25
11 referred to as Bhandarkar, which I believe is
12 Exhibit 1013.

13 Q Okay. So besides Lemoff's receptacle and
14 ferrule arrangement and the receptacle in Bhandarkar,
15 do you have any other examples of fixing a fiber that 02:14:57
16 would fall under the "part of a connector of some
17 sort"?

18 A Those are two good examples, I think.

19 Q But I'm asking you, do you have any others?

20 A I might. I -- I'd have to spend time thinking 02:15:08
21 about it. But I just don't remember. It may be
22 somewhere else in my report.

23 Q Are you aware that the board indicated in its
24 institution decision that during trial, the parties can
25 further address the meaning of stopped single optical 02:15:36

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1 fiber and address methods for stopping an optical --
2 optical fiber?

3 A That sounds familiar, that -- I believe what
4 you just said is part of what was written in the
5 institution decision. 02:15:53

6 Q Okay. And do you think it would have been
7 important in preparing for your deposition to -- to
8 brush up on the methods for stopping an optical --
9 optical fiber?

10 MR. JONES: Objection; form. 02:16:03

11 THE WITNESS: I -- I believe I did brush up.

12 BY MS. RICHEY:

13 Q Well, you said there might be others and you
14 need to spend time thinking about it.

15 A I -- I -- 02:16:13

16 MR. JONES: Objection; form, to the extent
17 there's a question.

18 THE WITNESS: I believe I gave a couple of
19 examples. More than two, I -- I -- I -- and as I said,
20 it may even be in my reports. 02:16:23

21 But I certainly brushed up on things, spent
22 time to think carefully about the key issues, one of
23 which is stopped optical fiber.

24 BY MS. RICHEY:

25 Q The other example that you gave was physical 02:16:38

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1 mating.

2 Can you explain what that -- physical mating
3 means?

4 A Actually, it's kind of a -- could be kind of a
5 connector, as physical mating is similar -- there's 02:16:56
6 some similarities to Bhandarkar and to Lemoff.

7 Q Well, is physical mating a -- refer to a
8 structure?

9 A There's -- I'm not quite sure of -- of what
10 the question is. 02:17:25

11 Q Well, I'm trying to understand what you mean
12 by "physical mating," and so that -- so if I -- if I
13 ask a question that you don't understand it's because I
14 don't understand why -- what you mean by "physical
15 mating." So I'm just trying to ask questions to get at 02:17:40
16 how you understand this term.

17 So can you describe an example of physical
18 mating?

19 A I would say that Bhandarkar is -- is a -- is a
20 good example of physical mating. 02:17:58

21 Q And why is Bhandarkar a good example of
22 physical mating?

23 A There's a physical connection.

24 Q Physical connection between what?

25 A I think we were discussing in terms of stopped 02:18:19

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1 optical fiber.

2 So there's a physical connection so that the
3 fiber is a stopped optical fiber, so that's fixed in
4 space.

5 Q Do you have other examples of physical mating? 02:18:40

6 A I'm -- I'm not sure. I'd want to think more
7 deeply about that.

8 Q And we asked -- I asked you for examples of
9 physical mating.

10 Can you provide me with a -- what that term -- 02:19:05
11 actually what it means?

12 A So I think it's where there's a physical -- a
13 physical structure of some sort that -- like a
14 connector, where something is held fixed in space.

15 Q Okay. You said you might have given some 02:19:50
16 examples in another declaration.

17 Are you referring to your district court
18 declaration?

19 A So I was -- I was referring to both of them.

20 My apologies for not specifying. 02:20:05

21 The IPR declaration and the district court
22 declaration may have other examples in there of -- of
23 ways to fix and have a stopped optical fiber, but I
24 just don't remember. So it may be in there, other
25 examples. I didn't memorize the -- my -- my 02:20:25

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1 declarations.

2 Q So are there any other examples of -- well,
3 let me start over. Sorry.

4 Are there any other methods for stopping an
5 optical combiner that you are able to provide me today 02:21:28
6 in your deposition?

7 A I think -- did you mention stopped optical
8 combiner?

9 Q I meant to say stopped optical fiber.

10 A Okay. Could you repeat the question? 02:21:59

11 Q Sure. Are there any other methods for
12 stopping an optical fiber that you are able to provide
13 me today in your deposition?

14 A So I -- I believe I -- I -- there are examples
15 contained within the -- the declaration, the IPR 02:22:10
16 declaration, and there may be others in the
17 declarations, but as I sit here, I would want to think
18 more about different examples.

19 Q Okay. Are you thinking of more examples right
20 now? 02:22:40

21 A No. I'm -- I'm -- I -- I would want time to
22 think about examples, if it's not already contained
23 in -- in the reports.

24 Q Okay. So you're also referring to your
25 district court declaration? 02:22:53

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1 A Correct. I -- I believe the issue of stopped
2 optical fiber is sort of their examples. You know, I
3 just don't remember what's in there, but there -- I
4 think there are examples, and beyond that, I -- I'd
5 want to be very careful and accurate and -- and take my 02:23:19
6 time and -- not as I sit here.

7 Q Okay. Speaking of your district court
8 declaration, you submitted a declaration in the
9 district court opining on how a person of ordinary
10 skill in the art would have understood certain claims; 02:24:08
11 correct?

12 A I believe I did.

13 THE WITNESS: And, Ms. Richey, may I ask for a
14 very short break?

15 MS. RICHEY: Sure. 02:24:24

16 THE WITNESS: A very short one?

17 MS. RICHEY: Uh-huh.

18 THE WITNESS: I'll come right back.

19 THE VIDEOGRAPHER: This marks the end of media
20 number 4. 02:24:30

21 The time is 2:24 p.m. We are off the record.

22 (Recess.)

23 THE VIDEOGRAPHER: This marks the beginning of
24 media number 5.

25 The time is 2:30 p.m. We are on the record. 02:30:12

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1 BY MS. RICHEY:

2 Q Okay. So I think I was directing you to your
3 district court declaration.

4 You provided a declaration in connection with
5 claim construction; correct? 02:30:32

6 A Correct.

7 Q And can I -- can I direct your attention to
8 claim 1 of the 416 patent.

9 MR. JONES: We marked this as 2025; is that
10 right? Just for the record. I think we did. 02:31:15

11 MS. RICHEY: The declaration, yeah.

12 MR. JONES: Okay. The district court
13 declaration?

14 MS. RICHEY: Yeah, yeah.

15 THE WITNESS: I believe claim 1 is recited 02:31:42
16 on -- in paragraph 75 of my district court declaration.

17 BY MS. RICHEY:

18 Q Okay. That's fine.

19 I just want to direct you to the language
20 "spaced apart" that's in claim 1, just trying to orient 02:32:00
21 you.

22 A So I -- I believe you're referring to where it
23 says, in paragraph 75, "said lenses being spaced
24 apart."

25 Q Yes. (As read): 02:33:12

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1 "A plurality of n collimating
2 lenses, said lenses being spaced apart
3 and positioned to receive and
4 collimate..."

5 Correct. 02:33:20

6 Isn't it true that "spaced apart" used in this
7 context means separated from each other?

8 A So I believe I gave a claim construction for
9 this term in the district court declaration, and I'm
10 going to also find it in my IPR declaration. 02:34:19

11 Actually, I don't remember if it is in there,
12 so -- it might be in here, I don't remember.

13 But I believe your question was lenses being
14 separated.

15 So these -- my claim construction for spaced 02:34:49
16 apart, said lenses being spaced apart, said lenses not
17 touching at any point.

18 Q Okay. Can you look at the petition that's
19 here --

20 MS. RICHEY: There. Thank you. 02:35:17

21 BY MS. RICHEY:

22 Q On page 62.

23 A Okay. I'm at 62.

24 Q Okay. And it -- it says, the last paragraph,
25 (as read): 02:35:45

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1 "For example, collimated lenses
2 520 are a plurality of n collimating
3 lenses which are separated from each
4 other, i.e., spaced apart."

5	Do you see that?	02:36:01
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6	A I see that.
---	---------------

7 Q So is it true that spaced apart, used in this
8 context, means separated from each other?

9 A If I -- if I'm correct, this is -- I don't
10 know what exhibit this is, but it's the petition for 02:36:24
11 inter partes review of U.S. Patent 416. This is not my
12 report.

13 So I'll -- I'd like to look at my report to
14 see my understanding.

15 I -- I -- this -- this is -- I did not author 02:36:49

16 this. I did not -- this -- this is not mine.

17	Q	Okay.
----	---	-------

18	A So...
----	---------

19 Q So let me --

20 MS. RICHEY: Is there a -- Madam Court 02:37:02

21 Reporter, is there still a question pending?

22 THE REPORTER: Your last question was, "So is
23 it true that spaced apart, used in this context, means
24 separated from each other?"

25	THE WITNESS: So I'm going to take a few	02:37:21
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1 minutes to look to see and refresh my opinion --

2 refresh my memory on -- on what I said with regards to
3 that.

4 BY MS. RICHEY:

5 Q Dr. Willner, it's been several minutes so -- 02:39:45

6 MR. JONES: Dr. Willner, you can take all the
7 time you need.

8 Carrie, you decided to take him to a different
9 report. He's here being cross-examined on his report
10 in the IPR. You took him to a different report and 02:39:57
11 started asking him questions. He's entitled to review
12 it.

13 MS. RICHEY: Well, I'm going to withdraw my
14 question, so there's nothing to review.

15 BY MS. RICHEY: 02:40:06

16 Q So I have a question for you.

17 Sitting here today, do you agree with the
18 definition that's laid out in the petition that spaced
19 apart means separated with each other?

20 A So I -- I'd have to take time to read the 02:40:22
21 petition to understand the context that it's using
22 those words to then give an opinion on whether I agree
23 or disagree. I -- I would want to look at it fully and
24 study it and be able to help with a term that's being
25 construed in -- in an accurate way. 02:40:41

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1 Q In the district court litigation, did you
2 opine that the term "spaced apart" is indefinite if it
3 is construed to mean nonoverlapping?

4 MR. JONES: Objection; scope. Outside the
5 scope of his direct in the IPR. 02:41:34

6 MS. RICHEY: So, wait, I'm -- sorry, just for
7 a second. Wait, are you saying that anything that's in
8 his district court declaration is out of scope of the
9 IPR?

10 MR. JONES: I guess I'll ask you. 02:41:53

11 He's being presented today for
12 cross-examination on his testimony in the IPR.

13 Is it your -- is it patent owner's position
14 that his district court declaration is part of his
15 direct testimony in the IPR? 02:42:05

16 MS. RICHEY: If you want to say he's never --
17 he's not going to rely on his -- we can use it to
18 impeach him, even if it's not part of his direct.

19 MR. JONES: I didn't instruct him not to
20 answer. I'm objecting to scope. And if you think that 02:42:27
21 objection to wrong, that's fine. And I asked if you
22 think it's part of -- properly part of what he's being
23 cross-examined about today. I'm -- I'm not withdrawing
24 my scope objection.

25 I did not instruct him not to answer. 02:42:45

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1 MS. RICHEY: Okay.

2 MR. JONES: So maybe just repeat your
3 question, but unless you think his district court
4 opinion is part of the direct testimony he's given in
5 this IPR, I believe it's out of scope. 02:42:59

6 MS. RICHEY: Okay. That's fine, you can
7 maintain your objection.

8 BY MS. RICHEY:

9 Q But you need to -- I'm going to ask you to
10 answer the question unless your counsel tells you not 02:43:21
11 to.

12 A Please repeat the question.

13 Q In the district court litigation, you provided
14 an opinion that the claim term "spaced apart" is
15 indefinite if it is construed not -- to mean not 02:43:39
16 overlapping; correct?

17 MR. JONES: Objection; scope. And objection
18 to the extent it characterizes testimony -- objection;
19 mischaracterizes testimony.

20 THE WITNESS: I believe in my district court 02:45:17
21 declaration, I discuss the issue that you raised.

22 Paragraph 112 is something that addresses, I
23 believe, your question, and also in paragraph 113.

24 So in there, I discuss the issue of the
25 possible construction of not overlapping and why I 02:46:21

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1 believe that there would be issues, problematic issues
2 with that.

3 BY MS. RICHEY:

4 Q So would a person of ordinary skill in the art
5 understand that spaced apart means separated from each 02:46:59
6 other?

7 A So given that "separated" is a -- is a term
8 that was pointed out in the petition and I was careful
9 about that and how it also goes to spaced apart. I'm
10 not sure if I've used the term "separated." If I have, 02:47:27
11 please show me where I have. I'm not sure I have.

12 Therefore, given that it's been raised as an
13 issue in the petition, I'd want to be very careful when
14 using the term. If I haven't used it already, then I
15 wouldn't want to start using it and be in conflict with 02:47:49
16 what may have been understood by the same word in the
17 petition. So I'd want time to -- to look at that.

18 Q So would a person of ordinary skill in the art
19 understand the term "spaced apart" to mean said lenses
20 not touching at any point? 02:48:12

21 A So I believe that a person of ordinary skill
22 would understand that the meaning of said lenses not
23 touching at any point is -- excuse me -- said lenses
24 being spaced apart to be said lenses not touching at
25 any point. 02:49:15

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1 Q I'm going to ask -- I'm going to repeat that
2 question because I -- I think I heard you, but I want
3 to make sure.

4 A A person of ordinary skill in the art would
5 understand the term "spaced apart" to mean said lenses 02:49:32
6 not touching at any point; is that correct?

7 A Well, said lenses being spaced apart.

8 So spaced apart is -- it's the term said
9 lenses being spaced apart that's being construed, and I
10 think a person of ordinary skill in the art would 02:49:57
11 understand that to mean said lenses not touching at any
12 point.

13 Q Okay. But do you have an opinion on whether
14 collimated lenses that are separated from each other
15 are also lenses that are not touching at any point? 02:50:39

16 A I'll come back to the same answer, which is
17 that since the word "separate" and "separately" is
18 something I don't think I've used in -- in the -- in
19 the way I've described it, it seems to be a word used
20 in the petition, I'd want to be very careful to 02:51:01
21 understand what they meant by that, the use -- the use
22 of the word "separate" in the petition.

23 So I would be -- I wouldn't want to not give
24 an accurate answer. I'd want to consider carefully
25 what -- what that word meant, especially since I don't 02:51:21

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1 know if I actually used that.

2 Q Okay. Okay. Let's change gears.

3 Do you have Kurita in front of you?

4 THE WITNESS: Ms. Richey, is it all right if I

5 take a very short break? 02:52:01

6 MS. RICHEY: Sure.

7 THE WITNESS: Thank you.

8 THE VIDEOGRAPHER: This marks the end of media
9 number 5.

10 The time is 2:52 p.m. We are off the record. 02:52:10

11 (Recess.)

12 THE VIDEOGRAPHER: This marks the beginning of
13 media number 6.

14 The time is 2:55 p.m. We are on the record.

15 BY MS. RICHEY: 02:55:36

16 Q All right. We were just looking at Kurita.

17 Dr. Willner, can you take a look at figure 4
18 of Kurita, the English version.

19 Okay. So figure 4 is a diagram of the prior

20 art; correct? 02:56:18

21 MR. JONES: Objection; form.

22 THE WITNESS: So figure 4 is described, on
23 page 12 of Exhibit 1004, as (as read):

24 "It is a conceptual configuration

25 diagram of one example of the 03:01:04

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1 conventional optical connection

2 element."

3 BY MS. RICHEY:

4 Q Okay. Can you look at paragraph 2 of Kurita.

5 Isn't it true that figure 4 is describing -- 03:01:36

6 or is showing a conventional method that has been

7 employed in the past?

8 MR. JONES: Objection; form.

9 THE WITNESS: The -- paragraph 2 is talking

10 about the field of wavelength multiplexing optical 03:02:13

11 communications requiring high outputs such as laser

12 processing -- sorry, I forgot the word "and."

13 So paragraph 2 states that (as read):

14 "In the field of wavelength

15 multiplexing optical communications 03:02:38

16 and in the field requiring high

17 outputs such as laser processing, it

18 may be necessary to couple lights

19 emitted from plural light sources into

20 a single fiber. Conventionally" -- 03:02:52

21 and I believe this is your question --

22 "as illustrated in figure 4, a method

23 employed" -- and "employed" would be

24 referring back, I believe, to couple

25 lights emitted from plural light 03:03:14

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1 sources into a single fiber -- "after
2 the lights from individual light
3 sources are individually focused with
4 lenses and individually coupled to
5 optical fibers, the lights from 03:03:43
6 individual fibers are coupled by an
7 optical multiplexer, which are then
8 multiplexed into a single optical
9 fiber."

10 So I -- I believe that answers your question. 03:03:57

11 Q I don't think it does.

12 So what I'm asking is, do you understand
13 figure 4 to represent prior art that Kurita is
14 comparing its optical arrangement to?

15 MR. JONES: Objection; form. 03:04:22

16 THE WITNESS: Well, Kurita has different
17 embodiments and different claims. So I believe what
18 Kurita is doing is trying to give a -- a background
19 paragraph here, a figure, that gives some context of
20 things that were known in the field. 03:04:47

21 As far as specifically to embodiments, claims,
22 I think it's -- it's something that Kurita has stated
23 is something that figure 4 was known.

24 BY MS. RICHEY:

25 Q And when you look at figure 4, can you 03:05:10

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1 describe what figure 4 is showing?

2 MR. JONES: Objection; asked and answered.

3 THE WITNESS: So I believe paragraph 2 is
4 trying to do that. It's trying to explain what is
5 shown in -- in figure 4, and it is just stating that 03:05:36
6 after the light -- the lights from the individual light
7 sources are individually focused with lenses and
8 individually coupled to optical fibers.

9 The lights from the individual fibers are
10 coupled by an optimal multiplexer, then into an optical 03:06:13
11 fiber.

12 BY MS. RICHEY:

13 Q So when you read the "individual monochromatic
14 light sources," do you understand that to mean they are
15 separated from each other? 03:06:30

16 A I'm not sure that the word "separated" is used
17 in the paragraph.

18 Q That's not -- it's not.

19 So what I asked was, do you understand that
20 when Kurita refers to individual monochromatic light 03:06:50
21 sources 110 that it is referring to light sources that
22 are separated from each other?

23 A It sounds like "separated" carries a lot of
24 meaning, in terms of claim construction and in terms of
25 the petition. 03:07:05

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1 So if -- if I -- if I -- I could ask you --
2 which I shouldn't and I won't.

3 But, you know, given that "separated" is
4 something that I'd want to take a very close look at,
5 how it was used in the petition, and also given that 03:07:22
6 figure 4 is also described as conceptual, I want to be
7 very careful about answering the question.

8 Q Can you identify differences between figure 4
9 and the system Kurita discloses in figure 3?

10 A Figure 3 is -- has various differences from 03:10:01
11 figure 4.

12 Q Is one of those differences that instead of
13 showing four individual lenses in figure 4, figure 3
14 includes a lens array?

15 A Items 120 in figure 4 are described as lenses 03:11:29
16 which individually focus light that came from the light
17 sources. And in figure 3, there is -- there are
18 differences to that.

19 Q Okay. That's not my question. I had a
20 question pending. 03:12:20

21 MS. RICHEY: Madame Court Reporter, can you
22 please restate the pending question?

23 (Record read.)

24 THE WITNESS: Are -- I'm not sure if the
25 question is implying that the lens array is in place of 03:12:46

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1 120. So as an example, there are many different
2 differences.

3 And there are lenses 120 in figure 4 that, as
4 an example, is between a light source -- each of the
5 lenses is between a light source and a fiber. 03:13:21

6 And looking at figure 3, there is lens
7 array 20 and lens 30 that is between the light
8 source -- light sources, light source, and a fiber.

9 BY MS. RICHEY:

10 Q Okay. Isn't it true that Kurita teaches using 03:13:55
11 a lens array in lieu of the individual lenses 120?

12 MR. JONES: Objection; asked and answered.

13 THE WITNESS: So the lenses of 120, if we only
14 focus on -- pardon the word "focus" -- if we only deal
15 with the issue of taking light from a -- a light source 03:14:23
16 and coupling it into a fiber, the lenses 120 of
17 figure 4 are involved in that whereas in figure 3, the
18 lens array and -- 20 -- 20 and lens 30 are involved in
19 taking light coming from sources and coupling them into
20 a fiber. 03:15:00

21 BY MS. RICHEY:

22 Q Okay. I'm going to quote from Kurita,
23 paragraph 12. (As read):

24 "Therefore, with this optical
25 multiplexer, as compared to the 03:15:22

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1 multiplexer shown in figure 4, a lens
2 array 20 is used in lieu of individual
3 lenses and individual optical fibers
4 become unnecessary..."

5 So I'm asking whether you would under- -- 03:15:37
6 whether Kurita teaches using lens array 20 instead of
7 the individual lenses 120?

8 A My apologies. I was -- when you were reading,
9 I was looking at -- I was trying to find paragraph 12,
10 so I didn't -- I wasn't listening when you were reading 03:15:58
11 from paragraph 12.

12 Q Okay. But you prepared for your deposition;
13 correct?

14 A Oh, sure.

15 Q And you spent 10 to 20 hours preparing; 03:16:06
16 correct?

17 A I'm not --

18 MR. JONES: Objection --

19 You have to always give me time.

20 Objection; mischaracterizes testimony. 03:16:14

21 BY MS. RICHEY:

22 Q You spent over ten hours preparing for your
23 deposition; correct?

24 A Correct, yes.

25 Q And you reviewed Kurita; correct? 03:16:20

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1 A Correct.

2 Q Okay. And you're providing testimony of what
3 a person of ordinary skill in the art would understand
4 in Kurita to teach; correct?

5 A I believe so, yes. 03:16:34

6 Q Okay. So my question to you is whether Kurita
7 teaches, to a person of ordinary skill in the art, that
8 the system in Kurita is using lens arrays in lieu of
9 the individual lenses that are shown on figure 4.

10 A I believe Kurita is teaching, to a person of 03:18:29
11 ordinary skill, that -- that there is an advantage to
12 having the lens array 20 and lens 30 of figure 3 as
13 opposed to the lenses 120, optical fibers 130, and
14 optical multiplexer 140.

15 Q So the same thing for the light sources? 03:19:24

16 MR. JONES: Objection; form.

17 BY MS. RICHEY:

18 Q Is Kurita teaching to a person of ordinary
19 skill in the art to use an array of light sources
20 instead of individual light sources? 03:19:47

21 A I'm not sure if that's -- Kurita is -- is
22 teaching a -- a combination of -- of elements.

23 In terms of teaching an array of light sources
24 versus individual light sources, was that known
25 beforehand? You know, that's -- I don't think 03:20:19

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1 that's -- that's his point -- his -- her point.

2 I think it's the combination here that's
3 described.

4 Q And isn't it true that the purpose of Kurita
5 over systems that were presumably known in the art is 03:21:05
6 to use fewer components?

7 MR. JONES: Objection; form.

8 BY MS. RICHEY:

9 Q Dr. Willner, respectfully, this is a fairly
10 simple question about Kurita that you have studied and 03:23:22
11 replied upon in your declaration, so why can't you
12 answer a simple question about what it is that Kurita
13 teaches?

14 MR. JONES: Objection.

15 He did not refuse to answer your question, and 03:23:39
16 he didn't say he can't answer it, so I'm not sure what
17 you're talking about.

18 MS. RICHEY: I'm talking about the -- the
19 time, the lapse of time.

20 MR. JONES: It's a big report. If you want to 03:23:48
21 point him to a particular passage, please do so.

22 MS. RICHEY: Well, it's Kurita as a reference
23 in general, what it teaches, that I would expect if
24 somebody has studied this and relied on it in their
25 declaration would understand what it does -- what it 03:24:08

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1 teaches to a person of ordinary skill in the art.

2 BY MS. RICHEY:

3 Q And so my question is whether or not Kurita
4 teaches using fewer components than conventional
5 systems that were known at the time.

03:24:18

6 A So I believe Kurita refers to something
7 related to that, so I just wanted to look to see the
8 language that Kurita is using, and I believe it's in my
9 report somewhere. I'm just trying to find it.

10 Q Okay. So based on -- before referring to your 03:24:39
11 report, can you answer the question?

12 MR. JONES: Objection.

13 He can look at his report if he wants.

14 THE WITNESS: I --

15 BY MS. RICHEY: 03:24:54

16 Q Well, my question -- then is your answer, no,
17 you can't answer the question without looking at the
18 report?

19 A I'd like to give an accurate answer, so I'd
20 like to look at the report.

03:25:03

21 MR. JONES: Carrie, if you want to
22 short-circuit this, he -- he's looking at the part of
23 his report addressing this.

24 BY MS. RICHEY:

25 Q Okay. Well, if you need a few more minutes 03:25:24

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1 to -- or not minutes, but seconds to drill down on your
2 report to find the particular section of the report
3 that covers this, go ahead.

4 A Okay.

5 Q So I can repeat my question. 03:25:42

6 So does Kurita teach using fewer components
7 than what was used -- conventionally used?

8 A So one of the aims of -- of Kurita is to
9 reduce the number of component parts and the costs as
10 well as attempting to hold down optical losses. 03:26:33

11 That's, I believe, in paragraph 5 of Kurita.

12 Q Okay. I -- I understand that. But my
13 question was not what your declaration states. I'm
14 asking your understanding of that reference.

15 A Oh. My understanding is that Kurita is trying 03:27:03
16 to -- in Kuri- -- in Kurita's words, one of the things
17 that they were trying to do was to reduce the number of
18 component parts.

19 Q Okay. And before you read your declaration,
20 were you not aware of that? 03:27:21

21 MR. JONES: Objection; form.

22 THE WITNESS: Of course, since I wrote the
23 report, I am aware of that.

24 I also remembered -- I believe it was in a
25 previous answer -- that I'm aware of, and I did 03:27:36

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1 remember, that that was part of it, but I wanted to
2 give a very accurate answer, so that's why I looked
3 more carefully.

4 I did not memorize Kurita. I did not memorize
5 my reports. 03:27:55

6 BY MS. RICHEY:

7 Q So in looking back at figure 4, is it accurate
8 to say that Kurita is attempting to reduce the number
9 of component parts such that Kurita uses fewer
10 components than the system described in figure 4? 03:28:23

11 MR. JONES: Objection; form.

12 BY MS. RICHEY:

13 Q Dr. Willner, I'm withdrawing the question.
14 How long have -- before preparing -- before
15 this deposition, how long have you spent reviewing 03:32:22
16 Kurita?

17 A A fair amount of time. I don't remember a
18 number.

19 Q Do you -- do you recall how many times you've
20 read Kurita? 03:32:37

21 A Not really.

22 Q Kurita is seven pages long.

23 Do you recall how -- how long you've -- how
24 many times you've reviewed Kurita?

25 A A number of times. 03:33:14

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1 Q Okay. Five times?

2 A I don't really remember a number.

3 Q Okay. So if I said have you reviewed -- well,
4 if -- have you reviewed it more than once?

5 A Yes. 03:33:33

6 Q Have you reviewed it more than twice?

7 A So, again, now -- now I'm not -- I just don't
8 remember the number of how many times I've reviewed it.

9 Q Okay. So you don't remember whether you've
10 reviewed it more than twice -- or more than once? 03:33:42

11 A No. I -- I -- I believe I answered that it --
12 it was more than once.

13 Q Okay. So have you reviewed it more than
14 twice?

15 A Again, I don't remember the -- the number. 03:33:52

16 Q Okay. So you can't tell me whether or not
17 you've reviewed Kurita more than two times?

18 A I can't give you a number.

19 Q Well, I -- is it that you can't or that you're
20 not? 03:34:13

21 A I just don't remember a number.

22 Q Okay. So you can't remember over two times
23 whether or not -- more than two times whether or not
24 you've reviewed Kurita?

25 A It probably was more than two times, and I 03:34:22

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1 just don't remember.

2 Q Can I direct your attention to paragraph 4 of
3 Kurita.

4 Do you recall ever reading paragraph 4 of
5 Kurita?

03:35:30

6 A I believe I have.

7 Q Okay. Did you read paragraph 4 of Kurita
8 before forming your opinions in your IPR declaration?

9 A I believe I have.

10 Q And do you have an understanding of what
11 paragraph 4 means?

03:35:42

12 A I have an understanding.

13 Q Okay. What's your understanding of
14 paragraph 4 of Kurita?

15 A Paragraph 4 of Kurita is trying to describe,
16 in Kurita's words, the problem to be solved by the
17 invention.

03:36:30

18 Q Okay. My question was, what is your
19 understanding of paragraph 4?

20 MR. JONES: Objection; asked and answered.

03:36:54

21 THE WITNESS: I believe paragraph 4 is trying
22 to, in Kurita's words, describe the issue of a
23 conventional light connector element that would then be
24 coupled to a single optical fiber.

25 It describes a problem about increased number

03:37:36

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1 of parts. It would therefore present the problem of
2 increased cost. And so Kurita is identifying that as a
3 problem that it wants to solve.

4 BY MS. RICHEY:

5 Q Okay. Can you -- referring to the last 03:38:15
6 sentence in paragraph 4, Kurita refers to installation
7 man-hours being increased.

8 Do you see that?

9 A Yes.

10 Q How would -- what would a person of ordinary 03:38:29
11 skill in the art understand that to mean?

12 A When the number of parts is increased, then
13 the number of hours needed for installation would
14 likely increase.

15 Q And what kind of -- what installation -- 03:39:14
16 what -- what does the word "installation" mean? How
17 would a person of ordinary skill in the art understand
18 what is meant by "installation man-hours"?

19 A I think it's --

20 THE WITNESS: After this question, if I could 03:39:49
21 ask for a very small break as well, but --

22 MS. RICHEY: Actually, we'll take a longer
23 break.

24 THE WITNESS: Oh, okay.

25 So the -- the words "installation man-hours" 03:39:58

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1 would be the time needed or the time for installing the
2 device.

3 MS. RICHEY: Okay.

4 THE VIDEOGRAPHER: Are we going off the
5 record?

03:40:32

6 MS. RICHEY: Off the record.

7 THE WITNESS: Is -- is this a short or a long
8 one?

9 THE VIDEOGRAPHER: This marks -- this marks
10 the end of media number 6.

03:40:40

11 The time 3:40 p.m. We are off the record.

12 (Recess.)

13 THE VIDEOGRAPHER: This marks the end -- marks
14 the beginning, rather, of media number 7.

15 The time is 3:54 p.m. We are on the record.

03:54:10

16 BY MS. RICHEY:

17 Q Just before we broke, we were talking about
18 the installation man-hours described in Kurita, and you
19 said that's the time needed for installing the device.

20 How would one go about installing Kurita?

03:54:35

21 And let's specifically focus on figure 1.

22 A Figure 1 is a conceptual diagram of Kurita.

23 When installing components systems, there are
24 various things that one needs to -- to do, and it

25 depends on the specific implementation that's -- that

03:56:44

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1 would be described by this conceptual diagram.

2 Q Okay. But I'm asking you from a person of --
3 representing a person of ordinary skill in the art, how
4 would a person of ordinary skill in the art understand
5 how to install Kurita? 03:57:20

6 A So I think the paragraph where it mentions
7 installation man-hours is giving an overarching
8 motivation, a problem to be solved. And I think that
9 Kurita is trying to give an advance that would be more
10 cost effective to -- and more efficient in terms of 03:58:05
11 installation.

12 So depending upon the specifics of how one
13 would implement figure 1, which is a conceptual
14 diagram, there might be many different things involved
15 in installation. 03:58:36

16 Q Okay. And what are -- what is one thing that
17 would be involved in installation?

18 MR. JONES: Objection; incomplete
19 hypothetical.

20 THE WITNESS: So I think it would depend on -- 03:59:03
21 on the implementation and -- so it could be the
22 fabrication of the various components.

23 BY MS. RICHEY:

24 Q What -- what do you mean when you say
25 "fabrication of the various components"? 03:59:42

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1 A Making -- making them.

2 But it really depends on the implementation
3 about what is involved.

4 And so Kurita lays out a very general
5 statement that, in general, if you can reduce the 04:00:08
6 number of parts, you can reduce the installation
7 man-hours.

8 Q Okay. Let's just -- I'm referring -- I'm
9 referring -- let's -- let's talk about Kurita
10 separately from -- I'm talking about separately from 04:00:37
11 increasing or decreasing the man-hours. We were
12 transitioning into talking about implementing it, and
13 I'm asking how would one go about, a person of ordinary
14 skill in the art, implementing Kurita.

15 A Uh-huh. Oh, I think a possible example could 04:01:15
16 be Bhandarkar.

17 And that's not really about figure 1. That's
18 more about figure 3.

19 Q Okay. So if one was going to implement
20 Kurita -- are you trying to -- are you saying that a 04:02:28
21 person -- you're saying that whenever Kurita was --
22 let's see. It's from 1995 -- well, let me ask you
23 this: Does Kurita disclose integrating its components
24 that are shown in figure 3?

25 MR. JONES: Objection; form. 04:03:05

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1 THE WITNESS: So the -- Kurita is showing a
2 conceptual diagram, and a person of ordinary skill
3 would understand what would be the know-how to create
4 figure 3.

5 And I affirmatively stated that -- that one 04:03:54
6 would understand that the fiber would be a stopped
7 optical fiber, fixed in space.

8 And I believe you used the word "integrated"
9 in your question.

10 And so my IPR report, I don't know if I 04:04:17
11 addressed that issue as a word, integrated.

12 It is something that comes up in the district
13 court claim construction, and it comes up in the
14 granting the institution decision.

15 So in terms of does Kurita teach or suggest? 04:05:04
16 I think it teaches and suggests what -- what I -- what
17 I said, which is a person of ordinary skill would know
18 how to implement this and that the fiber would be a
19 stopped optical fiber that would be fixed in space.

20 Q So can you point to a disclosure in Kurita 04:05:32
21 where it teaches integrating components?

22 A So as I mentioned, I -- the issue of
23 integration was something that came up in the district
24 court issue with claim construction. I don't know -- I
25 don't -- please -- please point to me if I did, but I'm 04:06:04

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1 not -- I don't believe I addressed integration in my
2 IPR.

3 And so the analysis I did in the IPR
4 declaration had to do with the -- Kurita -- that a
5 person of ordinary skill would know that Kurita is 04:06:33
6 teaching a stopped optical fiber fixed in space.

7 In terms of integration, it is a term that
8 carries a lot of weight and was part of the institution
9 solution in some way. It was there. But I don't
10 believe I gave an opinion about that although I 04:07:03
11 certainly have affirmatively stated about, in -- in the
12 IPR declaration, about stopped optical fiber.

13 Q And looking at figure 3, can you show me or
14 tell me what elements of figure 3 are the optical
15 combiner, in your opinion? 04:07:49

16 A So the optical combiner -- to the extent that
17 it -- the preamble is limiting, the optical combiner in
18 Kurita would be elements -- the light of emitting
19 portions of 11, the light of emitting portions 11, the
20 lens portions 21 and lens 30. 04:11:06

21 Q Okay. So the optical branch device 50 is not
22 part of the optical combiner; correct?

23 A I do not remember including 50 as part of the
24 optical combiner in Kurita.

25 Q In -- on page 108 of your IPR declaration, 04:13:40

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1 where you have the summary, it states that the optical
2 connection element and device of Kurita is an optical
3 combiner, to the extent it's limiting.

4 And so when you refer to the optical
5 connection element and device, are you referring to 04:14:15
6 elements 11, 21 and 30 that you just told me make up
7 the optical combiner?

8 A The optical combiner of the 416 may not be an
9 exact one-to-one correspondence to the optical
10 connection element of -- and device of Kurita. 04:16:45

11 And I have to be careful because the fiber is
12 not part of the optical combiner of the 416.

13 And let me just confirm that for a moment.

14 Whereas it is possible that the optical
15 connection element of Kurita may include more than the 04:17:58
16 optical combiner.

17 Q When you say "may include more," what do
18 you -- what do you mean by that?

19 A I'd want to look more carefully of -- to see
20 if the optical connection device of Kurita includes the 04:18:31
21 fiber.

22 Q And so what did you find? You looked at the
23 reference?

24 A Oh, I -- I -- I'd want to look at it in -- in
25 more detail. 04:19:45

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1 But I was just explaining why I was hesitant
2 to draw a complete one-to-one correspondence between
3 optical combiner and optical connection element
4 although the optical combiner is there. It's -- it's
5 part of the optical connection element and device. 04:20:12

6 Q And when you referred to the optical
7 connection element and device, what in Kurita are you
8 referring to?

9 A The -- for example, figure 3 is describing the
10 elements that I've identified, and figure 3 is 04:22:19
11 described as a conceptual configuration diagram of the
12 optical connection element.

13 Q Okay. So is it fair to say that the optical
14 connection element that's in figure 3 includes more
15 than what you've identified as the optical combiner? 04:23:43

16 A Figure 3 includes elements that I do not
17 include as part of the optical combiner.

18 Q Okay. So that's a yes to my question?

19 MR. JONES: Objection; form.

20 THE WITNESS: I'm not sure what the difference 04:24:38
21 is, but I -- the -- the optical switch element --
22 the -- the optical connection element of Kurita as
23 shown in figure 3 may -- the figure itself; right?
24 The figure itself includes elements that I have not
25 identified as part of the optical combiner. 04:25:12

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1 So the figure itself.

2 BY MS. RICHEY:

3 Q Okay. In your declaration, you use the phrase
4 "radial arrangement."

5 MR. JONES: Carrie, I know you've been worried 04:25:44
6 about time. Do you want to point him somewhere, or do
7 you want him to look for that phrase?

8 BY MS. RICHEY:

9 Q It's --

10 MR. JONES: I'm just trying to be helpful. 04:25:53

11 BY MS. RICHEY:

12 Q -- everywhere in your declaration.

13 So in your declaration, you use the term
14 "radial arrangement."

15 Are you aware of that? 04:26:09

16 A Yes.

17 Q Okay. And what is your understanding of the
18 term "radial arrangement"?

19 A That -- my understanding of a radial
20 arrangement is if one looks at a central axis, a center 04:26:40
21 point of, let's say, a circle as an example, that as
22 one moves around the azimuthal direction. So you move
23 radially out from the center, and then you would have
24 an arrangement, in some fashion, around the azimuth.

25 Q Okay. Is that the same thing as -- well, let 04:27:18

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1 me take that back.

2 Does radial alignment mean anything to you?

3 A Radial alignment?

4 Q Uh-huh.

5 A Have I used it -- 04:27:38

6 Q No, you haven't.

7 A -- in my report?

8 Okay. I'm just...

9 Q No.

10 A I'd -- oh, I mean, I've heard the word. 04:27:55

11 I've -- I've heard the term. I have some

12 understanding, but --

13 Q Is it -- would you -- is your understanding
14 that it means the same thing as radial arrangement?

15 A Radial arrangement and -- and radial 04:28:03

16 alignment, I'm not sure. I'd have to think carefully
17 whether I would think that that's -- I -- a person of
18 ordinary skill would -- would equate those two things.
19 I'd have to think more deeply about that.

20 Q Going back to radial arrangement, you 04:28:29

21 described it well. I'm trying to paraphrase. But you
22 said -- actually, can you just give me the definition
23 again, and I'll try to pick up your words again, of
24 radial arrangement?

25 A Sure. And I'll be careful that -- it's an 04:28:54

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1 example. It's -- I wouldn't char- -- I wouldn't
2 characterize it as a definition, but more an
3 understanding of, you know, what somebody -- one of --
4 one -- something that would come into the mind of a
5 person of ordinary skill. Again, not a definition per 04:29:09
6 se.

7 But if there is a -- a central axis, as -- as
8 an example, and -- so a center of a circle is an
9 example -- that one may have a radial direction, which
10 means you go out -- like the radius of a circle. You 04:29:32
11 go out from the center. And then one might place --
12 one might have different elements that would be located
13 in the azimuthal direction as you go around your
14 360 degrees of your -- of your circle, if it's a
15 circle. 04:30:10

16 Q Got it. Okay.

17 A That's just as an example.

18 Q That -- that's helpful.

19 So when you said the radial direction, is
20 that -- we're talking about a circle, from the center 04:30:25
21 of a circle. Can that be -- is that limited to a
22 particular plane relative to the circle, the center of
23 the circle?

24 A Yeah, since we're not really defining it, I'd
25 be -- I'd want to, in terms of defining it, what's 04:30:40

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1 included or excluded, I'd want to think more about it.
2 I don't -- I don't think I defined it. I was using
3 that in the IPR as an understanding of, you know, an
4 example of what is this radial arrangement and then
5 applying it to prior art.

04:31:05

6 But, you know, sort of the definition -- I'm
7 not sure what you said -- I'd want to think about --
8 about that.

9 Q Okay. The claims don't use the term "radial
10 arrangement"; correct?

04:31:28

11 A Oh, and before, when you said about -- you
12 talked about a planar. I may have given an opinion
13 about that in -- in the report, I just don't remember
14 here.

15 So I may have given an opinion about whether
16 radial does apply to that or not.

04:32:06

17 Now, your --

18 MR. JONES: Can we repeat the question?

19 BY MS. RICHEY:

20 Q The question was just claim one does not have
21 the limitation of radial arrangement; correct?

04:32:20

22 A Are you saying verbatim the -- the actual
23 words, radial --

24 Q Verbatim, uh-huh.

25 A Verbatim.

04:32:42

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1 The verbatim words, quote, radial arrangement,
2 end quote, are verbatim not spelled out in claim 1,
3 those exact words, end -- radial arrangement, end
4 quote.

5 Q So in looking at the claim language of "said n 04:33:56
6 collimated beams passes through a separate one of said
7 n sectors of said focusing means," can you show me
8 where that is in Kurita?

9 A Now, I have different grounds that I try to
10 map the claim to Kurita and also Kurita in view of 04:34:36
11 LaMarche and/or Lemoff.

12 So I'll answer your question -- I can do it
13 for grounds 1, 2 and 3, if you wish.

14 Q Let's start with ground 1.

15 A Okay. So I believe I outline in 04:34:59
16 paragraphs 182, 183 and 184 concerning the issue of how
17 Kurita teaches the radio [sic] aspect of the claim.

18 Q Does Kurita disclose a radial arrangement?

19 A I --

20 MR. JONES: Objection; form. 04:38:58

21 THE WITNESS: Kurita teaches a radio -- a
22 radial arrangement.

23 BY MS. RICHEY:

24 Q Okay. So can you look at figure 1 of Kurita?

25 A And I'm referring to figure 3 when I say 04:39:27

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1 Kurita teaches --

2 Q Okay.

3 A -- the radio -- the radial...

4 Q So looking at figure 1, is figure 1 a radial

5 arrangement --

04:39:41

6 MR. JONES: Objection; form. Objection;

7 vague.

8 BY MS. RICHEY:

9 Q -- of lens portions 21?

10 MR. JONES: Sorry, I interjected there too

04:39:51

11 soon.

12 Do you want to re-ask so --

13 MS. RICHEY: Sure.

14 MR. JONES: -- you don't have the broken --

15 BY MS. RICHEY:

04:39:56

16 Q Looking at figure 1, does Kurita disclose a

17 radial arrangement of lens portions 21?

18 A So I point to figure 3 as -- as teaching

19 radial.

20 Does figure 1 teach it? I have -- I don't

04:40:19

21 think I've said that that's the -- that's the operative

22 figure for teaching of radial.

23 Q Okay. So would you agree that figure 1 does

24 not disclose or teach a radial arrangement of lens

25 portions 21?

04:40:39

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1 MR. JONES: Objection to form.

2 THE WITNESS: I don't know if I've given that
3 opinion. I am affirmatively -- I believe I've
4 affirmatively said that figure 3 teaches that.

5 BY MS. RICHEY: 04:40:54

6 Q Okay. So at your -- today, your deposition,
7 will you provide me an answer as to whether figure 1
8 discloses or teaches a radial arrangement of lens
9 portions 21?

10 MR. JONES: Objection; form. 04:41:16

11 THE WITNESS: Did you -- did you use "radial"
12 in there?

13 BY MS. RICHEY:

14 Q Yeah.

15 A Okay. So I don't remember if it's in my 04:41:26
16 report. I -- it could be in my report somewhere. I
17 don't remember. Please -- please point it to me if --
18 if I have.

19 But I affirmatively point to figure 3 to teach
20 the radial aspect. 04:41:46

21 Whether figure 1 does or does not, it may be
22 in my report somewhere, I just don't remember.

23 Q Okay. Well, looking at figure 1, obser- --
24 like, looking at it right now at your deposition, does
25 it show a radial arrangement of lens portions 21? 04:42:07

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1 A I'd want to think more deeply about that
2 before saying something is or is not. I know what I
3 was able to rely on in Kurita to show the radial
4 aspect.

5 Figure 1, I'd have to think more deeply 04:42:27
6 whether it falls in or not in -- to the same -- the
7 same issue.

8 Q Okay. And to be clear, I'm not asking whether
9 or not it's in your report or not. I'm asking you your
10 understanding, which is the purpose of this deposition. 04:42:49

11 A Uh-huh.

12 Q So in looking at figure 1, do you understand
13 lens array portions 21 to be in a radial arrangement.

14 A So in order to do an analysis -- I don't know
15 if I did an analysis of figure 1 for -- I don't 04:43:20
16 remember if I did an analysis of figure 1 for the
17 radial issue. And, therefore, I'd want to do an
18 analysis to see whether it falls in or not. I'd want
19 to think carefully and be able to provide an accurate
20 opinion. 04:43:38

21 Q Okay. Looking at figure 2, does figure 2 show
22 an arrangement of -- let me start over again. Sorry.

23 Looking at figure 2 of Kurita, does figure 2
24 show a radial arrangement of lens portions 21?

25 MR. JONES: Objection; form. 04:44:04

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1 THE WITNESS: So I would give the same answer
2 as -- as I did for figure 1, which is I don't rely on
3 figure 2 for the radial aspect of -- of the claim, and
4 I affirmatively say that in figure 3 that lens array is
5 what I -- the -- the -- that that lens array is what I 04:44:38
6 rely on, and that in order to do an analysis of whether
7 figure 2 is or is not an example of the radial aspect
8 of the claim, I'd want to think more deeply and -- and
9 give an accurate answer, unless it may already be in my
10 report, and if so, I just don't remember and please 04:45:06
11 point it to me.

12 BY MS. RICHEY:

13 Q Does Kurita state that any lens arrangement
14 shown in figures 1 through 3 is better than other?

15 A I -- I haven't memorized Kurita. I can look 04:45:31
16 in Kurita to see if Kurita says anything.

17 Q Well, are you aware of whether Kurita says one
18 figure is -- one arrangement of lenses shown in the
19 figures are better than the other?

20 I'm asking if you're aware right now, without 04:45:48
21 looking at the reference.

22 A I haven't -- I haven't memorized Kurita.

23 It may be in my report, also. I don't
24 remember.

25 Q And from the perspective of a person of 04:46:11

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1 ordinary skill in the art, would one of the lens
2 arranges -- lens arrangements shown in figures 1
3 through 3 be better than any other arrangement?

4 I don't know if I said that in a complete
5 sentence. I can rephrase that but -- 04:46:33

6 MR. JONES: Why don't we do that.

7 MS. RICHEY: It's a mouthful when you have to
8 put in the words, POSITA.

9 BY MS. RICHEY:

10 Q In looking at figures 1 through 3 from the 04:46:47
11 perspective of a POSITA, would any lens arrangement be
12 better than the other?

13 A I don't remember if Kurita said anything. I
14 don't remember whether I have anything in my report
15 that relates to that. 04:47:13

16 And I'm not quite sure what better, you know,
17 sort of -- "better" is a -- I'm not sure what better
18 might -- might involve, especially if I don't look at
19 back at Kurita in -- in my report.

20 I -- I'm not sure. 04:47:32

21 Q Okay. Does Kurita disclose any way to fix the
22 components that make up the optical combiner?

23 A I assume you're saying "fixed" in the way
24 we've been talking about fixed, fixed spatially.

25 Q And just -- we're running -- we're running low 04:48:44

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1 on time, so I'm -- I'm going to limit my question to
2 whether or not you're aware right now, sitting here at
3 your deposition, whether Kurita discloses any way to
4 fix the components that you've identified as the
5 optical combiner. 04:49:01

6 A I -- I -- I think Kurita teaches about fixing.

7 Q Okay. And can you explain why?

8 A So the issues, I believe, are outlined in
9 paragraphs 172 to 174 of my IPR declaration that it
10 would have been readily apparent to a person of 04:50:14
11 ordinary skill that the -- the fiber of Kurita is fixed
12 in place.

13 Q But my question wasn't limited to the fiber.
14 I'm talking about the optical components themselves
15 of -- that are part of the optical combiner, which you 04:50:35
16 specifically said excludes the fiber.

17 A Oh. Well, the -- in Kurita, a working optical
18 combine- -- the optical connection of Kurita -- let's
19 say the combiner plus the fiber -- that the light would
20 need to propagate from the light-emitting devices 04:51:23
21 through their corresponding collimating lens, lenses,
22 lens, each light source to a corresponding collimating
23 lens, and then through the -- focusing the lens to
24 converge the light onto an optical fiber.

25 So the idea that -- the rationale I give 04:51:55

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1 behind that the fiber, a person of ordinary skill would
2 understand that the fiber is fixed in place because it
3 needs to accept -- it needs to get the light there.

4 The same logic applies to the other elements
5 as well, that if the laser was moving around, if the 04:52:26
6 collimating lens was moving around, if the converging
7 lens -- the focusing lens was moving around, things
8 would have a problem.

9 So a person of ordinary skill would know these
10 things would have -- would not be free-floating. 04:52:55

11 Q Okay. They would be fixed?

12 A They would -- in order for things to function
13 in -- in a working Kurita, things would be fixed
14 spatially.

15 MS. RICHEY: Okay. I need to take a break. 04:53:16

16 THE VIDEOGRAPHER: Okay. Does everyone agree
17 to go off?

18 MR. JONES: Yeah. Oh, yeah.

19 THE VIDEOGRAPHER: All right. This marks the
20 end of media number 7. 04:53:28

21 The time is 4:53 p.m. We are off the record.

22 (Recess.)

23 THE VIDEOGRAPHER: This marks the beginning of
24 media number 8.

25 The time is 5:03 p.m. We are on the record. 05:03:42

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1 BY MS. RICHEY:

2 Q Can we transition to LaMarche? Do you have
3 that in front of you or near you?

4 Okay. Great. Can you flip to figure 6.

5 So elements 620-1 through 620-m, those show a 05:04:31
6 ray of light sources; correct?

7 MR. JONES: Objection; vague.

8 THE WITNESS: So if you're referring to
9 laser -- lasers and laser output beams of the claims, I
10 believe that 620 is not what I'm relying on from 05:06:25
11 LaMarche for helping in groun- -- in the grounds
12 that -- that use LaMarche.

13 So I'm -- to the extent that you're just
14 asking in general are those things lasers, I can answer
15 that. 05:06:46

16 BY MS. RICHEY:

17 Q Yeah.

18 A But if you're -- if the question was are those
19 the lasers of the claim, I'm not relying on LaMarche
20 for that. 05:06:58

21 Q Right. No, I'm just -- I'm asking the former,
22 if those are light sources, light-emitting devices that
23 are shown in 620-1 through 620-m.

24 MR. JONES: Objection; form.

25 THE WITNESS: So I believe that they are -- 05:07:20

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1 620 -- as an example, 620-1 would be an N by N array of
2 light-emitting devices according to LaMarche that I
3 don't rely on in my ground.

4 BY MS. RICHEY:

5 Q Well, but you don't rely on it for the lasers, 05:07:59
6 but you do relay [sic] on it -- rely on it for the
7 radial arrangement of collimating lenses?

8 A So I believe in paragraph 223 of my IPR
9 declaration I discuss what -- what you're referring to,
10 where the N by N array, each of the 620-I [sic] 05:09:09
11 elements, the N by N array, N could be one that's
12 supported in LaMarche, and then you would have a
13 correspondence between a single light-emitting device
14 and a single collimating lens.

15 Q So on -- in figure 6, it shows -- 05:09:53

16 MR. JONES: Dr. Willner, were you finished?

17 Sorry, are you done with your answer?

18 THE WITNESS: No.

19 BY MS. RICHEY:

20 Q What? You're not done with your answer? 05:10:02

21 A Oh, I was going to say that the -- if you look
22 at -- looking at the figure, then -- and -- and the
23 description, that you would then learn and it teaches a
24 radial -- the radial issue that's then at issue in the
25 claim. 05:10:30

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1 Q If you look at figure 6, is it fair to say
2 that represents N equals 3?

3 A If I look at the figure and I just look at
4 what's shown, I would now -- I would go back to the
5 text just to see if that's the example it's giving. 05:11:14

6 Q Okay. So based on --

7 A But I would like to confirm that. So I -- if
8 that's all right. You -- I'm not -- I'd like to look
9 at how it's described in the -- in the specification.

10 Q Okay. Well, let -- I have a couple of 05:11:43
11 questions.

12 So let's -- let's go back.

13 I asked if you if looking at figure 6, is it
14 fair to say that N is equal to 3 in figure 6?

15 MR. JONES: Objection; form. 05:12:03

16 BY MS. RICHEY:

17 Q I'm not asking you to look at the rest of the
18 specification. I'm just asking, in looking at
19 figure 6, is it fair to say that N is equal to 3 in
20 figure 6? 05:12:26

21 MR. JONES: Objection; form.

22 And if the witness needs to refer to the spec,
23 he may.

24 THE WITNESS: I just want to look at how the
25 figure -- 05:12:33

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1 MS. RICHEY: Not my question. That's not my
2 question.

3 BY MS. RICHEY:

4 Q My question is, looking at figure 6, is it
5 fair to say that N equals 3? 05:12:39

6 MR. JONES: Same objection. Same instruction.

7 THE WITNESS: I'm -- I don't -- I think the
8 text that would describe the figure may help me give an
9 accurate answer.

10 And I -- I believe in the text, N is a 05:12:56
11 variable number, and that's why I want to look to see
12 what it -- it really says.

13 BY MS. RICHEY:

14 Q Okay. I -- I think we established that N is a
15 variable number, could equal 1, and I'm asking you if 05:13:10
16 N equals 3 as shown on figure 6.

17 A I think figure 6 is showing a concept. And
18 N -- again, I'd like to look. I mean, if you won't --
19 if you won't give me the time to look at the text that
20 describes it, I -- I don't -- didn't memorize the -- 05:13:32
21 LaMarche.

22 Q I'm not asking if you've memorized it. I'm
23 just telling you if you're -- what can you glean by
24 looking at figure 6, as far as what N equals?

25 A So looking at figure 6, I would look at the 05:13:51

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1 description of the figure that would help inform me of
2 what N is really -- what N might be depicted here.

3 Q Can you look at element 650 of figure 6.

4 Looking at that figure, do you understand this
5 is an array of ball lenses, based on your understanding 05:14:33
6 of LaMarche?

7 Dr. Willner, I'm going to withdraw my
8 question.

9 Can -- I'm withdrawing my question.

10 Can you go back and look at figure 6? Because 05:16:29
11 that's what I asked you to look at.

12 If you can look at figure 6 and if you're
13 aware, right now, at your deposition, looking at
14 figure 6, whether 650 represents an array of ball
15 lenses. 05:16:45

16 A That sounds -- in my memory, that sounds
17 familiar to me, but to give an accurate answer, since I
18 didn't memorize LaMarche, I didn't memorize each of the
19 elements, and one would have a hard time looking at 650
20 to comment on what kind -- what -- what -- that there 05:17:04
21 are ball lenses there, I would want to look to see how
22 LaMarche actually says it.

23 But what you said about, you know, being --
24 you know, one example being ball lenses does -- is
25 something that seems to ring a bell. 05:17:23

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1 Q Okay. Well, didn't you provide an opinion
2 that LaMarche represents radial arrangement where N is
3 equal to 1, in figure 6?

4 A So I -- I think what you're saying is -- may
5 be contained in -- in paragraph 223 of my IPR 05:18:00
6 declaration about -- where N -- the N by N array of
7 light -- of light-emitting devices would be where I say
8 that N could be equal to 1.

9 So I -- I think -- I think that's -- that's
10 what I've put into paragraph 223. 05:18:37

11 Q Okay. And if N equals 1 in figure 6, do you
12 know what that means to the array of lenses shown in
13 650? Do you know?

14 I'm asking you if N is equal to 1, how that
15 would affect what 650 -- element 650 looks like. 05:18:59

16 A I would like to read -- again, I -- I
17 haven't mem- -- I -- it sounds like I'm -- I'm -- I
18 think it may be in the description.

19 Q But if it's your opinion that a person of
20 ordinary skill in the art would have been motivated 05:19:18
21 to -- N equals 1, you must know what N -- when you
22 change N to 1 -- or how that would affect ball lenses
23 in element 650.

24 A Well, I did a very careful analysis of
25 LaMarche, and I was very concerned about the radial 05:19:34

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1 arrangement of the collimating lenses because that was
2 the heart of what I was using to -- to support various
3 grounds in the -- in my IPR declaration.

4 And I was very careful to make sure that --
5 that the radial arrangement of the lenses 630 and the 05:20:21
6 following lens would -- the radial arrangement of the
7 collimating lenses would be very much consistent with
8 what LaMarche was talking about, with LaMarche having N
9 equal 1.

10 As far as how Marche -- LaMarche would overall 05:21:07
11 change, outside of what I'm relying it for, I assume I
12 have thought about it.

13 I don't know if I have an opinion about how
14 LaMarche would change downstream if N equal 1. I -- it
15 may be in my report. 05:21:25

16 Q Well, why would anyone choose N equals 1 in
17 the context of LaMarche?

18 A Well, it's -- it -- it even says that. It --
19 it -- it -- it mentions it. So it's -- it's pretty
20 clear. 05:21:42

21 Why? I mean, even LaMarche is -- is
22 contemplating that.

23 And it even has N equals 1 in other figures of
24 LaMarche.

25 Q Show me a figure of LaMarche where N equals 1 05:22:00

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1 and the collimating lenses are arranged radially.

2 A So I rely on figure 6, as far as the teaching.

3 In the technology background, the idea of...

4 I'm not sure I rely on any other case in my

5 report. I think the -- I believe your question had to 05:24:01

6 do originally with N equals 1, why would LaMarche

7 contemplate N equals 1, and LaMarche actually

8 contemplates N equals 1. It says it. So --

9 Q Can you point to me what you're relying on in

10 LaMarche for N equals 1? 05:24:27

11 A I think a person of ordinary skill would

12 understand that that's what LaMarche is -- is

13 contemplating.

14 THE WITNESS: Gesundheit.

15 And I also -- sorry. 05:25:52

16 BY MS. RICHEY:

17 Q No, you were going to continue on. I

18 didn't -- I thought you were done.

19 A No.

20 Q Okay. So my question was can you point to 05:26:26

21 LaMarche and show me where it is -- I think I

22 originally said N equals 1 -- because you said it's

23 stated in LaMarche.

24 A Or it's -- a person of ordinary skill would --

25 would read LaMarche and -- and know that N could equal 05:26:43

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Q Okay. And then -- so does LaMarche say that N
equals 1 is any better than N equals 3 as -- or any
other number?

A I'd -- I -- I'm not sure I gave an -- did I
give an opinion about that? I'm not sure if I did or
not.

Q I mean, you opined that someone -- a person of
ordinary skill in the art would be motivated to select
N equals 1, so I'm trying to find out why that's the
case.

A I think I'm trying to say a person of ordinary
skill in the art would be motivated to combine Kurita
with LaMarche in one of the grounds, or two of the
grounds, for the -- for the radial arrangement of -- of
lenses.

In terms of this N equal 1, N equal 3, and the
motivation there within LaMarche, I may have given an
opinion, I don't remember. If I did, please -- please
show me. I just -- I haven't memorized the report.

Q You did provide an opinion. I think you
pointed out the paragraph already where you provide --
opine that a person of ordinary skill in the art would
have chosen -- or would have known that N could equal
1.

05:27:07

05:27:25

05:27:57

05:28:16

05:28:39

1 A Yes. Yes, a person of ordinary skill in the
2 art would read LaMarche and would know that N equals --
3 N equal 1 is -- is an option.

4 Q It's an op- -- okay.

5 And so N equals 2 is an option; correct? 05:28:53

6 A N equals 2 is an option.

7 Q N equals 3 is an option; correct?

8 A I'd have to read through LaMarche, but I
9 think -- I -- I'd like to read just that portion. I
10 don't know -- I didn't memorize LaMarche. 05:29:09

11 And I think you're asking me to give bounds on
12 N, I believe.

13 So I can affirmatively state that N equals 1
14 is something a person of ordinary skill would read
15 LaMarche and understand that's -- that's absolutely, 05:29:28
16 you know, an option.

17 Q And would someone of ordinary skill in the art
18 reading LaMarche understand that N equals 2 is an
19 option?

20 A If I may, I don't -- didn't remember -- I 05:29:39
21 didn't memorize LaMarche. So in terms of what is not
22 or is an option other than N equal 1, I'd -- I'd want
23 to read. I just don't -- didn't --

24 Q That's okay.

25 A -- memorize it. 05:29:54

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1 Q That's an answer. That's fine.

2 And looking at LaMarche figure 6, would a
3 person of ordinary skill in the art know how to
4 integrate all of those optical components?

5 MR. JONES: Objection; form. 05:30:21

6 THE WITNESS: Could you -- was the question
7 about LaMarche?

8 BY MS. RICHEY:

9 Q LaMarche figure 6, yes.

10 A Okay. Sure. 05:30:36

11 So since you -- you use the word "integrate"
12 in your question, I'm not sure I've given an opinion
13 about integration of LaMarche. Please point me to
14 where it might be. I don't believe I did.

15 So in terms of what would be required or done 05:30:56
16 for integration, which is a -- an important term, in
17 the -- it was mentioned in the institution decision,
18 mentioned in district court.

19 So in the IPR, I -- I -- how I would view
20 that -- your question, I'd want to take my -- take a 05:31:24
21 good analysis and try to answer it accurately.

22 Q Okay. You did not provide an opinion on how
23 to integrate the optical components of Kurita; correct?

24 MR. JONES: Objection; form.

25 THE WITNESS: I talked about Kurita, how a 05:31:46

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1 person of ordinary skill in the art would understand
2 how to -- what would be important, especially in terms
3 of the stopped optical fiber, and that it's fixed.

4 BY MS. RICHEY:

5 Q Okay. But I'm talking about the optical 05:32:05
6 components, so the optical combiner components that you
7 referred to in Kurita.

8 A Well, I think we talked about that before,
9 where a person of ordinary skill would understand
10 the -- would understand what -- what -- what is going 05:32:30
11 to be of relevance to a working Kurita.

12 Q Okay. Yeah, we talked about this earlier
13 today, and we talked about integration in Kurita, and
14 you did not include that in your report, but you had an
15 opinion today about whether a person of ordinary skill 05:33:05
16 in the art would know how to integrate Kurita, but you
17 don't have the same opinion as to LaMarche?

18 MR. JONES: Objection; form. And objection to
19 the characterization of testimony.

20 THE WITNESS: I'm not sure I -- I -- I try 05:33:20
21 very hard to not use the term "integration" and
22 "integrate" because it's such an important term and
23 because I would want to think very carefully,
24 especially as it applies to prior art.

25 So I believe in your question there was an 05:33:38

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1 assumption about what I've said.

2 I would not agree that I really -- in the --

3 the IPR, I affirmatively talked about various issues.

4 And in terms of integration related to Kurita,

5 integration LaMarche, I -- I think I've been -- I've 05:34:02

6 tried to be very -- very careful of not incorporating

7 or adopting your term of "integration."

8 Because it's important, because I think

9 everybody would want an accurate -- an accurate answer,

10 I've tried to avoid adopting that term until I've had a 05:34:21

11 chance to give it more thought in -- to give an

12 accurate -- an accurate answer.

13 BY MS. RICHEY:

14 Q Okay. Do you understand that I am allowed to

15 test your opinions about the prior art by going outside 05:34:52

16 of what's literally exact statements that are used in

17 your declaration?

18 MR. JONES: Objection; form.

19 THE WITNESS: I -- I -- I don't know what --

20 so I -- I -- I have -- I haven't -- I've tried to 05:35:14

21 answer everything you've asked me today. I -- I...

22 BY MS. RICHEY:

23 Q Earlier -- well, never mind.

24 We need to switch gears because we're now

25 running out of time. 05:35:32

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1 Do you have Le --

2 A Lemoff.

3 Q -- -moff in front of you?

4 MR. JONES: 1006, if that helps.

5 BY MS. RICHEY: 05:36:20

6 Q Okay. Are you familiar with the term "butt
7 coupling"?

8 A I have familiarity with butt coupling.

9 Q Okay. And how would a person of ordinary
10 skill in the art understand that term? 05:36:35

11 A It is possible that Lemoff actually uses the
12 term.

13 So I'm guessing we're going to talk about
14 Lemoff. I'm just going to very quickly just see if I
15 can find that. 05:36:55

16 Q Well, but before you very quickly look and try
17 to find something, can you answer my question?

18 A Well, given that butt coupling may come up
19 with -- with regards to Lemoff, I believe Lemoff
20 does -- I believe that I remember that Lemoff may use 05:37:14
21 the term "butt coupling." So just to be consistent
22 and -- and accurate, you know, that -- would like to
23 refresh my memory.

24 Q Okay. Well, before you refresh my memory, I
25 would like an answer to my question. 05:37:34

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1 So how would a person of ordinary skill in the
2 art understand the term "butt coupling"?

3 A So a person of ordinary skill in the art would
4 understand the term "butt coupling" as it relates to
5 Lemoff in a way that I would like to see what it says. 05:37:49
6 Because Lemoff may define it in some way. I would want
7 to be very careful.

8 Q But I'm not -- I'm not asking about what
9 Lemoff's opinion is on the term. I'm asking you how a
10 person of ordinary skill in the art would understand 05:37:59
11 the term.

12 A So given that -- that Lemoff may say something
13 about it that may be different than what I'll say now.

14 So outside the context of Lemoff, a person of
15 ordinary skill may think of butt coupling as -- one 05:38:23
16 example of butt coupling, I'll give it as an example --
17 maybe to bring an optical fiber is just one example.
18 In proximity of some optical element, like a waveguide,
19 and the coupling of light between one and the other
20 would be achieved, as one example, could be achieved 05:39:10
21 that way.

22 But that's outside the scope -- that's outside
23 the scope of -- of Lemoff. Because I'd like to read --
24 I don't -- I didn't memorize Lemoff to know if he says
25 anything about -- about butt coupling. 05:39:31

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1 Q So I'm just trying to understand your example.

2 You said there's a waveguide and a fiber, and
3 how are those, in this example, butt coupled together?

4 Or if that's even the right term. Maybe I
5 shouldn't have added the word "together." 05:39:51

6 How -- if you -- can you describe the example
7 again with a waveguide and a fiber and explain how the
8 two are butt coupled?

9 A So in -- outside the scope of -- of Lemoff and
10 my understanding of a person of ordinary skill that one 05:40:13
11 example of butt coupling may be taking an optical
12 fiber, which has a -- a waveguiding core, as an
13 example, bringing it into proximity or having it in
14 proximity to an optical element, such as a -- a
15 waveguide, which can emit light or accept light, and so 05:40:48
16 because of the proximity, light can travel between the
17 different elements, coupling from one to the other.

18 And as I say, that's outside the scope of
19 Lemoff insofar as I don't remember if Lemoff gives any
20 more detail than that or a different understanding than 05:41:25
21 that.

22 Q And can you look at figure 1B.

23 And I think Lemoff does describe figure 1B as
24 using -- they call it direct butt coupling.

25 Would you agree with -- with that? 05:42:16

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1 I'm going to direct your attention to -- I was
2 just asking you to look again at the figure, but if you
3 want to look at the specific wording, it's on column 3,
4 line 32 to 34.

5 A Oh, thank you. 05:43:44

6 Q Okay. There's two -- two lines.

7 A So I -- I'm just trying to line up the
8 elements that -- that are stated here.

9 So Lemoff describes, in column 3, line 32,
10 direct butt, with two Ts, coupling is used between 05:45:03
11 signal-emitting area 125 and optical conduit 150, and I
12 wouldn't dispute that.

13 Q Okay. Is that consistent with what you're --
14 you're -- how you were describing butt coupling before?

15 A It's something that is consistent with my 05:45:29
16 understanding.

17 Q Okay. So you, before, said that the -- in
18 your example -- the fiber and the optical component,
19 like a waveguide, would be in proximity to each other.

20 Would direct butt coupling mean, then, that 05:45:47
21 they are in direct contact with one another, as shown
22 in the figure?

23 A So I -- I think a person of ordinary skill
24 would think of butt coupling as being broader than
25 physically touching. 05:46:33

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1 So I'm not sure I would limit it. I would
2 need to think more carefully if -- if I'm limiting butt
3 coupling.

4 Q What about direct butt coupling?

5 A Same issue. I -- I'm not sure -- without 05:46:58
6 reading more carefully -- I didn't -- I didn't -- I
7 don't rely on -- on figure 1B. I use some of the
8 elements that are common in 1A, 1B and figure 2.

9 So in some of the grounds -- excuse me.

10 In some of the grounds, I'm relying on really 05:47:27
11 figure 2 where some of the elements are common.

12 But in terms of butt -- direct butt coupling,
13 I'd want to -- does that connote something different
14 in -- in the example of figure 1B than regular butt
15 coupling? I -- I'd want to think about that. 05:47:55

16 I may have already said something about it.
17 It may actually be in my report somewhere. I don't
18 remember.

19 Q Okay. What about the term "to image an
20 optical signal"? In terms of what it means to image an 05:48:07
21 optical signal, how would a person of ordinary skill in
22 the art interpret that term?

23 MR. JONES: Objection; form. Objection;
24 vague.

25 THE WITNESS: I have some understanding of 05:48:31

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1 how -- how Lemoff thinks about it, and he -- there's
2 something in there, I remember, since imaging is a --
3 is a term.

4 I -- I believe I remember there was something
5 in Lemoff, and I believe my report says something 05:49:01
6 regarding that, if I -- if I may.

7 BY MS. RICHEY:

8 Q Wait, but I'm -- that's not what I'm asking.
9 I am -- you are -- are you aware that I'm allowed to
10 ask you about the understanding of a personary -- a 05:49:10
11 person of ordinary skill in the art beyond how a
12 particular reference has used the term?

13 MR. JONES: Objection; form.

14 THE WITNESS: I can answer it outside the
15 context of -- of the 416 and Lemoff. 05:49:24

16 BY MS. RICHEY:

17 Q Well, I'm asking you, from a perspective of a
18 person of ordinary skill in the art, how would they
19 understand the term -- or the phrase "to image an
20 optical signal"? 05:49:46

21 MR. JONES: Objection; form. Objection;
22 incomplete hypothetical.

23 THE WITNESS: So I -- you know, if --

24 BY MS. RICHEY:

25 Q And maybe it means nothing. 05:49:50

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1 A Am I -- am I giving --

2 Q Oh, I'm sorry. I'm just trying to help you.

3 I'm not trying to stop you or be difficult. I'm

4 just -- maybe it means nothing and maybe my question is

5 terrible, but I'm just asking the question.

05:50:02

6 A I've been very impressed.

7 Q So -- and maybe that doesn't mean anything --

8 you know, it cannot mean anything to you or to a

9 person -- maybe you need more context. I don't know.

10 I'm not trying to trip you up.

05:50:13

11 But I'm just asking whether that phrase, "to

12 image an optical signal," means anything to a person of

13 ordinary skill in the art when you hear that phrase.

14 MR. JONES: Objection; form.

15 THE WITNESS: So I -- I think of -- in --

05:50:23

16 there are things that -- that come to mind, and in

17 terms of trying to give a definition, I'm -- it would

18 be hard for me here.

19 I think a person of ordinary skill has some

20 understanding of imaging.

05:50:58

21 "Imaging" is -- is a big term, and to give you

22 sort of what are -- what is the definition of that,

23 especially when it's used in Lemoff, I'd want to be

24 very careful that it's consistent with -- with Lemoff.

25 So -- and I believe Lemoff does talk about it,

05:51:25

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1 and I believe Lem- -- what Lemoff does say is very --
2 just confirms my opinion in my -- in my declaration.

3 BY MS. RICHEY:

4 Q So if one of your students --

5 A And -- and I believe that I talk about what -- 05:51:42
6 you know, what a person of ordinary skill in the art
7 would -- would also understand from -- from Lemoff.

8 Please, about my students.

9 Q Yeah. So if one of your students were to ask
10 you, hey, Dr. Willner, what does it mean when -- to say 05:51:56
11 the signal -- to image the optical signal?

12 MR. JONES: Objection; form.

13 THE WITNESS: I -- I --

14 BY MS. RICHEY:

15 Q It's a bad question. I'll ask another 05:52:14
16 question.

17 A Yeah, I -- I -- I mean, it's -- it's sort of
18 an open-ended question. I think there's some very
19 specific -- there's a very specific issue with -- in --
20 that is addressed in Lemoff, but I think, you know, to 05:52:30
21 give a definition here, I'd want to -- again, to give
22 something that's accurate about something -- a term
23 like "imaging," I'd want to be very careful and not
24 just do it right now.

25 I -- I -- and I don't know if I have in -- in 05:52:51

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1 the -- in my declaration. Did I give a definition for
2 imaging?

3 Q Well, I don't think so, so -- but it's
4 obviously entwined into your opinion regarding an
5 imaging element to twine, so -- but putting that aside, 05:53:06
6 again going back to what a person of ordinary skill in
7 the art would understand, the term "to image," "to
8 image the optical signal" --

9 A Yeah.

10 Q -- would a person of ordinary skill in the art 05:53:21
11 understand that phrase?

12 A A person of ordinary skill in the art would --
13 would -- would have some understanding about that.

14 Q Okay.

15 A And I believe that I try to apply that in what 05:53:36
16 I wrote concerning Lemoff and Lemoff's element.

17 Q Okay. But I'm asking you in -- not just
18 limited to Lemoff. I'm asking you from the
19 understanding of what the term -- or the phrase means
20 to a person of ordinary skill in the art. 05:53:56

21 A So to -- for me to define what that means to a
22 person of ordinary skill, that's -- I affirmatively say
23 what it would mean in terms of Lemoff.

24 In general, I'd have to think about how to
25 give you an accurate answer. 05:54:14

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1 But a person of ordinary skill would know
2 enough so that when they read Lemoff, that's -- it
3 would connote to them what I put into my declaration.

4 Q Well, does the word "imaging" mean that the
5 light itself that's being imaged maintains the same 05:54:47
6 pattern?

7 MR. JONES: Objection; form.

8 THE WITNESS: So I'm trying to -- I think
9 "imaging" is a -- a broad term. Somebody would read
10 Lemoff and understand what imaging element is doing. I 05:55:12
11 describe that in the declaration.

12 In terms of, like, what -- somebody says
13 "imaging" and is there a -- one answer, I'd be very
14 careful before giving that.

15 I think your -- your -- your example, your -- 05:55:35
16 the hypothetical that's outside the -- outside of the
17 context of Lemoff, I'd want to think very clear about
18 what just the term would mean to a -- to a -- a person
19 of ordinary skill.

20 BY MS. RICHEY: 05:56:00

21 Q Okay. Just to be clear, I don't think my
22 hypothetical is outside the scope of Lemoff.

23 A Oh, I -- my apologies. I -- I meant that my
24 answer was directed outside the scope. I wasn't...

25 Q Okay. Let's look at Bhandarkar. 05:56:21

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1 Exhibit 1013.

2 MR. JONES: It's -- no, you're right. That --
3 it looks similar.

4 THE WITNESS: Ms. Richey, is it okay to take a
5 short break? 05:57:03

6 MS. RICHEY: Take five? Sure.

7 THE WITNESS: Thank you.

8 MS. RICHEY: Off the record.

9 THE VIDEOGRAPHER: This marks the end of media
10 number 8. 05:57:10

11 The time is 5:57 p.m. We are off the record.

12 (Recess.)

13 THE VIDEOGRAPHER: This marks the beginning of
14 media number 9.

15 The time is 6:04 p.m. We're on the record. 06:04:05

16 BY MS. RICHEY:

17 Q Okay. Now let's take a look at figure 5 of
18 Bhandarkar.

19 Where are the collimating lenses?

20 A So Bhandarkar. In paragraph 295 of my IPR 06:05:58
21 declaration shows the array of collimating lenses 540.

22 Q Okay. So element 540 in figure 5?

23 A Element 540 of figure 5.

24 Q Okay. Are the collimating lenses spaced
25 apart? 06:06:48

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1 A So when looking at figure 5 and reading it in
2 the context of the Bhandarkar material, I also point to
3 the issue that the lasers and the collimating lenses
4 have a correspondence, and as is clear in Bhandarkar,
5 one can position the lasers with different -- in 06:07:12
6 different ways. If you look at figure 5, the -- if the
7 lasers are adjusted outward, as is consistent with
8 Bhandarkar, the lenses corresponding to them would move
9 outward, and Bhandarkar would -- this is all
10 consistent, there would be a space between -- the 06:07:47
11 lenses would be spaced apart.

12 Q Does Bhandarkar disclose the gap between the
13 lenses?

14 A I think it teaches it, yes, because the --
15 Bhandarkar talks about that one can arrange the lens -- 06:08:13
16 the lasers in many -- in different ways.

17 And just looking at figure 5, you can readily
18 see that the lasers move out, apart. The lenses
19 would -- would move to correspond to them. That's why
20 I reference that in -- in the text. 06:08:31

21 Q Okay. But as --

22 A And then --

23 Q -- shown in figure 5 --

24 MR. JONES: Is he --

25 THE WITNESS: I'm not done. 06:08:41

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1 BY MS. RICHEY:

2 Q Okay. But you're not answering the question.

3 So I'll withdraw whatever question is pending.

4 I'm going to ask you another question.

5 So when looking at figure 5, at 540, element 06:08:48

6 540, the collimating lenses, as shown in figure 5, are
7 those collimating lenses spaced apart?

8 A So when I look at look at figure 5 and I read
9 the text to Bhandarkar, there would be a gap in the
10 case where -- as Bhandarkar says. And that's why 06:09:11
11 it's -- it's so helpful to see it here, that if the
12 lasers and the lenses correspond to each other, if the
13 lasers have a different space -- different orientation,
14 the lenses would, and that's fine.

15 And then you can see clearly here that one 06:09:34
16 could move those two apart -- one would move those two
17 apart to correspond to the lasers, there would be a gap
18 there.

19 Q But does figure 5 show a gap between the
20 collimating lenses? 06:09:52

21 A I believe when you read it in light of --
22 of -- a person of ordy -- ordinary skill would --
23 would -- would gather that, would look at figure 5 and
24 know that that's -- that's taught.

25 Q That's not my question. 06:10:07

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1 My question is, is it disclosed, is it shown
2 in figure 5 the collimating lens is being spaced apart?

3 A I think when you couple -- it's shown in light
4 of the -- the text that -- that -- that is -- that
5 describes it. 06:10:30

6 Q Okay. Could you please point to the text in
7 Bhandarkar that explicitly describes the collimating
8 lenses being spaced apart?

9 MR. JONES: Objection; form.

10 THE WITNESS: So I think a person of ordinary 06:10:45
11 skill would read the -- the issue of Bhandarkar where
12 it says you have a correspondence between the positions
13 of the lasers and the collimating lenses with the
14 description of one can place the lasers many different
15 ways, and it's just apparent that that's -- and then 06:11:19
16 you look at figure 5, boom, it's -- you know, you --
17 you have a different location of the lasers, different
18 location of the lenses spaced in between.

19 BY MS. RICHEY:

20 Q So paragraph 296 of your IPR declaration, you 06:11:42
21 say (as read):

22 "The collimating lenses 540 are
23 spaced apart because, as shown in
24 figure 5, there are gaps (spaces)
25 between the collimating lenses 540." 06:11:58

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1 So based on your declaration, you're saying to
2 look at figure 5 and there are gaps, which you've put
3 in parens "spaces," between the collimating lenses.

4 A Yeah. And -- and --

5 Q Is it your opinion that figure 5 shows gaps or 06:12:19
6 spaces between the collimating lenses?

7 A That's exactly to your point about -- that's
8 why I included the next sentence. It was that --
9 it's -- it's -- it shows it, when you -- in light of
10 their position to receive and collimate the output of 06:12:39
11 laser output beams because -- because the array of
12 collimating lenses are placed at corresponding planar
13 positions compared to the lasers.

14 So that -- that's an important point; right?
15 Because -- otherwise, I -- I wouldn't have put it in 06:12:59
16 there; right? It's an important point.

17 So that a person of ordinary skill would read
18 that, would understand, because it's -- it's in
19 Bhandarkar that the lasers could be placed in different
20 orienta- -- different arrangements, that -- you -- 06:13:15
21 you -- that's why figure 5 is helpful, because then you
22 can kind of see it, you can see. If you move those
23 lasers, those -- there's a gap in between -- in between
24 those -- those lenses.

25 Q You said if you move the -- the lasers. 06:13:35

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1 So you mean if you rearrange what's shown in
2 figure 5, you can create collimating lenses that have a
3 gap in between them. Is that what you're suggesting?

4 MR. JONES: Objection; form.

5 THE WITNESS: I don't think figure 5 -- I'm -- 06:13:50
6 I'm not rearranging 5. 5 is -- I think the text that
7 helps describe figure 5 is -- is clear that the way --
8 there -- there isn't really a fixed -- "fixed" we've
9 used before -- that the lasers -- there can be
10 different positioning of the lasers here, and you -- 06:14:18
11 you then look at this figure -- so it -- it informs
12 you. It's -- it's not -- I'm not changing figure 5.
13 Figure 5 is very helpful.

14 And if I may...

15 I think what I said is -- is correct. 06:15:22

16 BY MS. RICHEY:

17 Q Okay. Did you point to anywhere in Bhandarkar
18 describing figure 5 that the collimating lenses are --
19 there's a gap between the collimating lenses?

20 MR. JONES: Objection; form. 06:15:40

21 THE WITNESS: So I'm -- I'm not sure --

22 MS. RICHEY: Sorry.

23 THE WITNESS: -- I understand that.

24 BY MS. RICHEY:

25 Q Yeah, let me rephrase that. 06:15:43

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1 Can you show me in the specification, in
2 Bhandarkar, where the collimating lenses are described
3 as having a gap between them?

4 A I think a person of ordinary skill would read
5 Bhandarkar and would understand that the lenses can be 06:16:07
6 spaced apart, as figure 5 helps you understand that.

7 Q Okay. And -- but my question was specifically
8 about whether the specification describes the
9 collimating lenses in figure 5 as having gaps between
10 them. I'm not asking whether a person of ordinary 06:16:32
11 skill would have extrapolated from that.

12 I'm asking if the specification itself
13 explicitly states that the collimating lenses in
14 figure 5 have a gap between them.

15 MR. JONES: Objection; form. 06:16:49

16 THE WITNESS: I -- I think it's -- it's
17 readily apparent that when it talks about -- that --
18 how -- which it does multiple times -- about the -- the
19 lasers having different arrangements. And it says that
20 the lenses correspond to the lasers. That -- that's -- 06:17:11
21 that's what somebody would take away from it. And it
22 talks about it being within the spirit and scope.

23 MR. JONES: Carrie, as a heads-up, you've got
24 about five minutes remaining.

25 MS. RICHEY: Okay. So I just have a few 06:17:36

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1 questions that I need to ask.

2 BY MS. RICHEY:

3 Q So, Dr. Willner, was it your strategy in this
4 deposition not to engage on any of the claim
5 construction positions that you took other than what is 06:17:51
6 expressly written in your declaration?

7 MR. JONES: Objection; form, argumentative.

8 THE WITNESS: I -- I don't know if I had a
9 strategy. I wanted to be helpful and -- and answer
10 your question. 06:18:08

11 BY MS. RICHEY:

12 Q Was it your strategy not to engage on any of
13 the prior art references you relied on other than what
14 was expressly written in your declaration?

15 MR. JONES: Same objection. 06:18:16

16 THE WITNESS: I think I don't really think
17 there was a -- that I had a strategy other than to try
18 to be helpful and answer your questions.

19 BY MS. RICHEY:

20 Q Was it your strategy to run out the clock on 06:18:28
21 your deposition by taking several minutes to answer
22 basic questions?

23 MR. JONES: Objection; form. Objection;
24 argumentative. Objection; mischaracterization.

25 None -- none of this is appropriate, but you 06:18:38

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1 may answer.

2 THE WITNESS: I -- I actually don't agree with
3 the question. So I have been trying to be helpful
4 throughout and answer the questions in an accurate way.

5 BY MS. RICHEY: 06:18:58

6 Q All right. Directing your attention back to
7 Bhandarkar, at figure 5, are the collimating lenses
8 shown in figure 5 spaced apart?

9 A A person of ordinary skill would look at
10 figure 5, would look at the text describing figure 5, 06:19:36
11 and would understand that since one can change the
12 arrangement of the lasers and since one understands
13 that each laser will correspond to a lens, and then
14 looking at figure 5, it's apparent that there would be
15 a gap. 06:20:13

16 Q That's not my question.

17 I'm asking you what is shown in figure 5.

18 A I understand figure 5 in the context of the
19 drawing and -- and the text that surround- -- that --
20 that -- that applies to it. 06:20:33

21 And so I -- I think I've -- I've answered what
22 I believe is the correct answer.

23 Q Are the lasers shown -- in figure 5 that are
24 shown spaced apart?

25 MR. JONES: Objection; form. Objection; asked 06:20:58

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1 and answered.

2 THE WITNESS: I -- I -- I believe I've been
3 answering that question. It's the same -- it's the
4 same answer, which is a person of ordinary skill would
5 look at figure 5, would understand figure 5, in 06:21:10
6 conjunction with the text that goes with it, would
7 understand that the lasers would -- could be -- have
8 different placements. The lenses correspond to those
9 lasers. And since that is in the spirit of -- spirit
10 and scope of figure 5, then one -- one understands that 06:21:43
11 those lenses would then have -- be spaced apart.

12 MS. RICHEY: Okay. Well, on that note, we can
13 end your deposition.

14 MR. JONES: Okay. Carrie, as we discussed, I
15 have one -- one thing. 06:22:02

16
17 EXAMINATION

18 BY MR. JONES:

19 Q Dr. Willner, can you please turn to page 8 of
20 your declaration, paragraph 4. 06:22:18

21 And you see there a reference to your CV,
22 Exhibit A?

23 A Correct.

24 Q I'm handing you a document we'll mark as
25 Exhibit 2026. 06:22:43

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1 (Exhibit 2026 was marked for identification
2 by the court reporter and is attached hereto.)
3 BY MR. JONES:
4 Q Please take a look at that.
5 Is that the Exhibit A referred to in your 06:22:55
6 declaration?
7 A I assume you do not want me to go through all
8 these pages.
9 It looks like it's my CV. If you tell me it's
10 my CV, I accept that. 06:23:05
11 MR. JONES: All right. Nothing further from
12 me.
13 Carrie, are we done?
14 MS. RICHEY: We're done.
15 THE VIDEOGRAPHER: Okay. Alexis, do you want 06:23:15
16 to say anything on the record, on the video record?
17 THE REPORTER: No, thank you.
18 THE VIDEOGRAPHER: Okay. This marks the end
19 of media number 9 and concludes today's testimony for
20 Dr. Alan E. Willner. 06:23:29
21 We're off the record at 6:23 p.m.
22 (TIME NOTED: 6:23 p.m.)
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I, ALAN WILLNER, M.D., do hereby declare under penalty of perjury that I have read the foregoing transcript; that I have made any corrections as appear noted, in ink, initialed by me, or attached hereto; that my testimony as contained herein, as corrected, is true and correct.

EXECUTED this ____ day of _____,
20____, at _____, _____.
(City) (State)

ALAN WILLNER, M.D.

VOLUME I

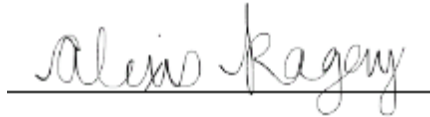
1
2
3 I, the undersigned, a Certified Shorthand
4 Reporter of the State of California, do hereby certify:

5 That the foregoing proceedings were taken
6 before me at the time and place herein set forth; that
7 any witnesses in the foregoing proceedings, prior to
8 testifying, were placed under oath; that a record of
9 the proceedings was made by me using machine shorthand
10 which was thereafter transcribed under my direction;
11 further, that the foregoing is an accurate
12 transcription thereof.

13 I further certify that I am neither financially
14 interested in the action nor a relative or employee of
15 any attorney of any of the parties.

16 IN WITNESS WHEREOF, I have this date subscribed
17 my name.

18
19 Dated: April 13, 2024
20

21 
22

ALEXIS KAGAY

23 CSR NO. 13795
24
25

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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