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Transcript of Curtis A. Ray

Date: June 13, 2024

Case: Opticis Co., LTD -v- Inneos, LLC (PTAB)

Planet Depos

Phone: 888.433.3767

Email: transcripts@planetdepos.com

www.planetdepos.com

Opticis Co., Ltd

EXHIBIT 1017

IPR Petition for

U.S. Patent No. 7,198,416

WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
3

4 -----
5 OPTICIS CO., LTD.,
6 Petitioner

7 vs

8 INNEOS LLC,
9 Patent Owner
10 -----

11 Case IPR2023-01256
12 U.S. Patent No. 7,198,416
13

14 Videotaped deposition of
15 CURTIS A. RAY
16

17 VIA VIDEO/TELECONFERENCE

18 THURSDAY, JUNE 13, 2024

19 12:12 p.m. EASTERN TIME
20

21 Job No.: 540722

22 Pages: 1 - 133

Reported by: Lisa V. Feissner, RDR, CRR, CLR

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Videotaped deposition of CURTIS RAY, held
REMOTELY, via ZOOM, on THURSDAY, JUNE 13, 2024,
beginning at 12:12 p.m., pursuant to Notice, before
Lisa V. Feissner, RDR, CRR, CLR, Notary Public.

1 A P P E A R A N C E S:

2 ON BEHALF OF PETITIONER:

3 MICHAEL H. JONES, ESQUIRE

4 ROTHWELL, FIGG, ERNST & MANBECK, P.C.

5 901 New York Avenue, NW

6 Suite 900 East

7 Washington, DC 20001

8 202.783.6040

9 mjones@rothwellfigg.com

10
11 ON BEHALF OF PATENT OWNER:

12 CARRIE RICHEY, ESQUIRE

13 WOMBLE BOND DICKINSON (US) LLP

14 50 California Street, Suite 2750

15 San Francisco, CA 94111

16 408.341.3060

17 carrie.richey@wbd-us.com

18
19 A L S O P R E S E N T:

20 CHARLIE McGRATH, Videographer

21 DANIEL ESPARZA, A/V Technician

22 DEVIN OWENS, Intern, Womble Bond Dickinson

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C O N T E N T S

EXAMINATION OF CURTIS RAY	PAGE
By Mr. Jones	6
By Ms. Richey	106
By Mr. Jones	113

E X H I B I T S

(Attached to transcript)

RAY DEPOSITION EXHIBIT	PAGE
1 U.S. Patent No. 6,396,978	86

P R E V I O U S L Y

M A R K E D E X H I B I T S

(Not attached to transcript)

EXHIBIT NUMBER	PAGE
Opticis Co., Ltd. IPR Exhibit 1001	12
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1	P R O C E E D I N G S	12:00:40
2	VIDEOGRAPHER: Here begins media number 1	12:12:38
3	in the videotaped deposition of Curtis A. Ray in the	12:12:51
4	matter of Opticis Co. LTD versus Inneos LLC in the	12:12:55
5	United States Patent and Trademark Office before the	12:13:03
6	patent trial and board, Case Number IPR 2023-01256.	12:13:05
7	Today's date is June 13th, 2004. The	12:13:15
8	time on the video monitor is 12:13 p.m.	12:13:19
9	The remote videographer today is Charlie	12:13:23
10	McGrath representing Planet Depos.	12:13:26
11	All parties of this video deposition are	12:13:27
12	attending remotely.	12:13:30
13	Would counsel please voice identify	12:13:31
14	themselves and state whom they represent.	12:13:34
15	MR. JONES: My name is Michael Jones from	12:13:35
16	the law firm Rothwell, Figg, and I represent the	12:13:37
17	petitioner, Opticis.	12:13:40
18	MS. RICHEY: Hi. I'm Carrie Richey with	12:13:44
19	the law firm of Womble Bond Dickinson. I represent	12:13:48
20	the patent owner Inneos LLC and the deponent Curtis	12:13:52
21	Ray.	12:13:58
22	VIDEOGRAPHER: The court reporter today	12:13:59

1	is Lisa Feissner representing Planet Depos.	12:14:00
2	The witness will now be sworn.	12:14:10
3	CURTIS RAY,	12:14:10
4	having been first duly sworn, was examined and	12:14:10
5	testified as follows:	12:14:11
6	EXAMINATION	12:14:12
7	BY MR. JONES:	12:14:12
8	Q Hello, Mr. Ray, and thanks for taking	12:14:17
9	some time to speak with us today.	12:14:19
10	A Sure.	12:14:21
11	Q So as you probably heard, my name is	12:14:22
12	Michael Jones, and we represent the petitioner,	12:14:25
13	Opticis, in an Inter Partes Review or IPR. And the	12:14:29
14	IPR is captioned IPR 2023-01256. And that's Opticis	12:14:34
15	Co. LTD. v. Inneos LLC.	12:14:43
16	If I refer to the Inter Partes Review or	12:14:46
17	the IPR or the present matter, will you understand	12:14:49
18	what I'm referring to?	12:14:52
19	A Yes.	12:14:53
20	Q So just to kind of start us off, maybe we	12:14:55
21	can do sort of personal introductions.	12:14:59
22	Can you state your name.	12:15:01

Transcript of Curtis A. Ray
Conducted on June 13, 2024

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1	A	Curtis Ray.	12:15:06
2	Q	And what's your business address?	12:15:08
3	A	Well, I work at home. So you want my	12:15:11
4		home address?	12:15:15
5	Q	You don't have to.	12:15:16
6		Who do you work for at home?	12:15:18
7	A	So I'm currently working for a company	12:15:20
8		called Omnitron Sensors. We make MEMS devices for	12:15:24
9		LiDAR.	12:15:30
10	Q	Okay. And so where are you physically	12:15:32
11		located today?	12:15:34
12	A	Alamo, California.	12:15:35
13	Q	Have you ever been deposed before?	12:15:45
14	A	No.	12:15:47
15	Q	Okay. So I'll give you maybe a few of	12:15:48
16		the basics on deposition, and you can let me know or	12:15:51
17		your counsel know if you have any questions about	12:15:54
18		how this works.	12:15:56
19		So I'm going to ask you a series of	12:15:57
20		questions. If you don't understand the question,	12:16:00
21		I'd ask that you not answer it, but instead ask for	12:16:04
22		another question or ask for clarification.	12:16:07

1	Can you do that?	12:16:10
2	A Sure.	12:16:10
3	Q And so if you do answer my question, I'm	12:16:12
4	going to understand -- I'm going to assume that you	12:16:15
5	understood it.	12:16:18
6	A Yes.	12:16:19
7	Q Any time you need a break, just let me	12:16:19
8	know, and we'll take one. Usually I'll want to	12:16:23
9	finish sort of whatever questions I'm working on,	12:16:26
10	but then we can break whenever you need.	12:16:28
11	A Good.	12:16:30
12	Q And I just wanted to let you know that	12:16:31
13	under IPR rules, you're not allowed to speak with	12:16:35
14	your counsel during breaks about the substance of	12:16:39
15	your deposition. You are allowed to talk about	12:16:42
16	things like privilege or things like that. But I	12:16:46
17	just wanted to let you know that rule.	12:16:48
18	Do you understand?	12:16:50
19	A The distinction of privilege I don't	12:16:51
20	understand.	12:16:55
21	Q Yeah. And, of course, your counsel will	12:16:55
22	chime in if need be. But basically, you're not	12:16:58

1	allowed to talk to your counsel, Ms. Richey, during	12:17:02
2	the depo about the substance of your testimony.	12:17:05
3	Okay?	12:17:09
4	A Okay. Procedure-wise, I can ask?	12:17:09
5	Q What's that?	12:17:12
6	A I can ask about procedures?	12:17:13
7	Q In particular, if there's a question	12:17:15
8	about attorney-client privilege or something like	12:17:18
9	that that makes you uncomfortable about answering or	12:17:21
10	your counsel uncomfortable about answering, you guys	12:17:23
11	are allowed to talk about that.	12:17:26
12	A Okay.	12:17:28
13	Q Does that make sense?	12:17:29
14	A Yes, somewhat.	12:17:30
15	Q Okay. And you will hear objections	12:17:32
16	during the day from Ms. Richey. And unless she	12:17:35
17	tells you not to answer, even if there's an	12:17:40
18	objection, you still answer the question that's	12:17:42
19	pending.	12:17:45
20	A Okay.	12:17:46
21	Q And then finally, you understand that you	12:17:47
22	are under oath, correct?	12:17:49

1	A	Yes.	12:17:50
2	Q	All right. Very good.	12:17:52
3		So because we're doing this deposition	12:17:53
4		remotely, we're not in the same room, and I can't	12:17:57
5		see what you have with you, if anything. So I'm	12:18:00
6		going to ask you a few questions about that.	12:18:04
7	A	Yes.	12:18:05
8	Q	Do you have any printed materials with	12:18:06
9		you for purposes of this deposition?	12:18:11
10	A	I'm glad you clarified.	12:18:13
11		No.	12:18:15
12	Q	So you don't have copies of the patent or	12:18:17
13		any of your declarations or any papers or anything	12:18:19
14		like that?	12:18:21
15	A	No.	12:18:22
16	Q	Okay. Any notes pertaining to this or	12:18:22
17		your inventions or anything like that?	12:18:26
18	A	No.	12:18:27
19	Q	How about on the computer that you're	12:18:28
20		using, do you have any documents about the IPR,	12:18:31
21		notes, markups?	12:18:34
22	A	No.	12:18:36

1	Q	Okay. If that changes, if you do bring	12:18:37
2		out documents or you plan to work from printed	12:18:40
3		materials, I'd just ask that you let me know since	12:18:43
4		we can't really see what's in front of you.	12:18:46
5	A	Good. I was planning on having you bring	12:18:49
6		up the documents and share them.	12:18:51
7	Q	Yep. We will do that, and usually it	12:18:53
8		goes smoothly. We've got a good team here, and what	12:18:56
9		we'll do is, when I want to talk about a document,	12:19:00
10		they all have labels, we'll put it up on the screen,	12:19:02
11		and you can scroll through as needed and take a look	12:19:05
12		at it.	12:19:07
13	A	Very good.	12:19:07
14	Q	All right. So since we're talking about	12:19:08
15		documents, do you understand that this IPR is	12:19:14
16		related to U.S. Patent No. 7,198,416 to Ray, et al.?	12:19:18
17	A	I'll take your word for it that that's	12:19:28
18		the right number.	12:19:29
19		MR. JONES: Why don't we go ahead and put	12:19:34
20		up on the screen document A which was Exhibit 1001.	12:19:36
21		COURT REPORTER: We have lost our	12:19:43
22		technician.	12:19:44

Transcript of Curtis A. Ray
Conducted on June 13, 2024

12

1	MR. JONES: So let's wait for our	12:19:45
2	technician to get back, and then we'll pop that up	12:19:47
3	on the screen.	12:19:49
4	VIDEOGRAPHER: Should I take us off the	12:19:51
5	record?	12:19:53
6	MR. JONES: Sure.	12:19:53
7	VIDEOGRAPHER: We are going off the	12:19:54
8	record at 12:19.	12:19:56
9	(Recess from 12:19 p.m. until 12:24 p.m.)	12:23:55
10	VIDEOGRAPHER: We are back on the record	12:23:55
11	at 12:24.	12:24:02
12	MR. JONES: All right. So we just took a	12:24:06
13	short break for technical difficulties, but we are	12:24:08
14	back on the record now, and we were discussing U.S.	12:24:10
15	Patent 7,198,416.	12:24:13
16	If we could please put that up on the	12:24:16
17	screen. It's document A and previously marked as	12:24:20
18	Exhibit 1001 in the IPR.	12:24:22
19	A/V TECH: Please stand by.	12:24:29
20	(Previously marked Exhibit 1001 presented	12:24:29
21	to the witness.)	12:24:33
22	BY MR. JONES:	12:24:33

1	Q	All right. Do you recognize the patent	12:24:43
2		up on the screen, Mr. Ray?	12:24:44
3	A	Yes.	12:24:45
4	Q	And if I refer to this as the '416	12:24:47
5		patent, will you understand what I'm referring to?	12:24:50
6	A	Yes.	12:24:52
7	Q	All right. And this is the patent at	12:24:54
8		issue in the IPR that we're discussing today.	12:24:58
9		You've submitted a number of declarations	12:25:02
10		relating to this patent.	12:25:04
11		Is that correct?	12:25:06
12	A	Yes.	12:25:06
13		MS. RICHEY: Objection, form.	12:25:07
14		MR. JONES: So let's go ahead and mark	12:25:13
15		some of those declarations just so we can make sure	12:25:15
16		we're talking about the same thing.	12:25:19
17		So let's pull up document B, which was	12:25:20
18		previously marked in the IPR as Exhibit 1002.	12:25:24
19		(Previously marked Exhibit 1002 presented	12:25:24
20		to the witness.)	12:25:30
21		A/V TECH: Please stand by.	12:25:30
22		BY MR. JONES:	12:25:34

1	Q	So Mr. Ray, this document is what's sort	12:25:44
2		of referred to as the prosecution history of the	12:25:47
3		'416 patent.	12:25:49
4		Do you know what prosecution history	12:25:52
5		means?	12:25:53
6	A	Somewhat, yes.	12:25:54
7	Q	It's basically the record of the patent	12:25:56
8		before the Patent Office while you guys were	12:25:59
9		obtaining the patent.	12:26:01
10		Does that make sense?	12:26:02
11	A	Yes.	12:26:03
12	Q	Okay. So what this does is, it includes	12:26:04
13		the declarations that you submitted during	12:26:07
14		prosecution of the '416 patent.	12:26:10
15	A	Okay.	12:26:11
16	Q	So let's start with -- if we could turn	12:26:12
17		to page 74 of this document.	12:26:14
18		COURT REPORTER: Are you talking PDF 74	12:26:58
19		or page 74 of the document?	12:27:01
20		MR. JONES: They should be the same, but	12:27:03
21		PDF 74.	12:27:04
22	Q	If we go to the header here, do you	12:27:07

1	recognize this document, Mr. Ray?	12:27:10
2	A Yes.	12:27:11
3	Q And what is it?	12:27:12
4	MS. RICHEY: Can you guys just give me an	12:27:13
5	opportunity to object in between the question and	12:27:16
6	the answer.	12:27:18
7	And I'm going to object to this based on	12:27:20
8	scope.	12:27:24
9	MR. JONES: Okay. What is the scope	12:27:28
10	objection?	12:27:32
11	MS. RICHEY: Because this is an IPR, and	12:27:33
12	he submitted a declaration in relation to the IPR,	12:27:35
13	and that's what you should be using your deposition	12:27:38
14	to cross him on.	12:27:40
15	MR. JONES: Okay. He stated in his IPR	12:27:42
16	declaration that he understands his declaration will	12:27:48
17	be submitted in support. He also stated that his	12:27:50
18	prior declarations are true and accurate	12:27:53
19	reflections. So he specifically referenced these	12:27:56
20	earlier declarations in his IPR declaration, so I'm	12:27:57
21	going to ask him about them.	12:28:01
22	MS. RICHEY: Okay. Well, I will object.	12:28:04

1	MR. JONES: All right.	12:28:06
2	Q Sorry, Mr. Ray.	12:28:07
3	So do you recognize this declaration?	12:28:09
4	A Yes.	12:28:11
5	Q Okay. And what is it?	12:28:12
6	MS. RICHEY: Objection, scope.	12:28:17
7	A The only thing I know about it is what	12:28:22
8	you just told me about it right now.	12:28:26
9	Q Okay. If I call this your first	12:28:31
10	declaration, will you know what I'm referring to?	12:28:35
11	A I can refer to it as that, yes.	12:28:37
12	Q Okay. Let's go to page 43 of this	12:28:40
13	document.	12:28:43
14	And this is a document in the prosecution	12:28:49
15	history titled Supplemental Declaration of Curtis	12:28:55
16	Ray.	12:28:58
17	Do you see that?	12:28:59
18	A Yes.	12:28:59
19	Q If we call this your supplemental	12:28:59
20	declaration, will you know what I'm talking about?	12:29:02
21	A Okay.	12:29:03
22	MR. JONES: Great. Let's go ahead and	12:29:04

1	pull up another document. I believe it is	12:29:09
2	document C.	12:29:14
3	A/V TECH: Please stand by. I'm sorry.	12:29:18
4	Has this document previously been marked?	12:29:25
5	MR. JONES: Yes. So this is --	12:29:26
6	document C was previously marked in the IPR as	12:29:29
7	Exhibit 2045.	12:29:31
8	(Previously marked Exhibit 2045 presented	12:29:31
9	to the witness.)	12:29:45
10	BY MR. JONES:	12:29:45
11	Q And Mr. Ray, if I refer to this as your	12:29:48
12	IPR declaration, will that make sense? Will you	12:29:51
13	understand?	12:29:54
14	A Can you show me the date?	12:29:54
15	Q Yes. If we can scroll down to the bottom	12:29:56
16	to the signature block.	12:30:00
17	A Okay.	12:30:04
18	Q All right. And why don't we just take a	12:30:06
19	look at paragraph 4 of this declaration, which is on	12:30:11
20	page 2 of the PDF, numbered page 1.	12:30:14
21	And if you could just take a moment to	12:30:19
22	read paragraph 4, Mr. Ray.	12:30:21

1	A	Yes.	12:30:36
2	Q	Okay. And in this paragraph, you refer	12:30:38
3		to two declarations attesting to activities	12:30:40
4		surrounding the conception and reduction of the	12:30:45
5		invention of the '416 patent, quote, prior	12:30:48
6		declarations.	12:30:52
7		Do you see that?	12:30:54
8	A	Yes, sir.	12:30:54
9	Q	And are those two declarations the	12:30:55
10		declarations we looked at earlier, referring to as	12:30:58
11		your first declaration and supplemental declaration?	12:31:01
12	A	Yes.	12:31:10
13	Q	Thank you.	12:31:12
14		All right. And we can leave that up on	12:31:13
15		the screen, or we can take it down. It doesn't	12:31:21
16		matter.	12:31:23
17		How did you prepare for your deposition	12:31:24
18		today?	12:31:27
19		MS. RICHEY: I would like to caution the	12:31:29
20		witness not to disclose the substance of any	12:31:31
21		attorney-client communications.	12:31:35
22		But to the extent that you can answer the	12:31:39

1	question without disclosing any correspondence with	12:31:41
2	your attorney, you may do so.	12:31:45
3	A I put on a nice white shirt so I'd look	12:31:50
4	good for the Court, had some coffee, had a piece of	12:31:56
5	birthday cake for breakfast.	12:32:00
6	Q How about yesterday, what did you do	12:32:02
7	yesterday to prepare?	12:32:04
8	MS. RICHEY: I would like to caution the	12:32:06
9	witness as to the same, not to disclose the	12:32:08
10	substance of any attorney-client communication while	12:32:10
11	answering this question.	12:32:14
12	A Nothing special.	12:32:17
13	Q Okay. What did you do, subject to your	12:32:20
14	counsel's caution?	12:32:23
15	MS. RICHEY: And let me just be clear,	12:32:25
16	too. The fact that you met with counsel is fine to	12:32:27
17	disclose, but not to disclose the substance of any	12:32:33
18	conversations that were had during that meeting.	12:32:36
19	A I checked that I had the link today to	12:32:39
20	the meeting and that the schedule on my calendar was	12:32:43
21	the right time and everything was ready.	12:32:48
22	Q Okay. Did you meet with anyone to	12:32:51

1	prepare for today's deposition?	12:32:52
2	A Not that -- not that Carrie said I should	12:32:56
3	expose.	12:33:01
4	MS. RICHEY: So you can disclose that you	12:33:04
5	met with an attorney, but not the contents or the	12:33:07
6	conversations that were had between --	12:33:10
7	A Carrie did check in with me and helped	12:33:12
8	that I got the right meeting location.	12:33:15
9	MS. RICHEY: Wait, wait, wait. So now	12:33:17
10	you're going into what --	12:33:19
11	THE WITNESS: What we discussed, okay.	12:33:22
12	MS. RICHEY: Yes.	12:33:23
13	A I met with Carrie.	12:33:24
14	MS. RICHEY: Yeah. And Michael, I think	12:33:26
15	the question is a little open-ended, so it's	12:33:30
16	asking -- to answer that question -- I don't know	12:33:36
17	about this very last one, but the one before, about	12:33:38
18	how you're prepared, you're asking it in a way that	12:33:41
19	would elicit attorney-client communication, so I	12:33:43
20	would ask that you could phrase your questions in a	12:33:47
21	way that would not be directly eliciting	12:33:50
22	attorney-client privileged information.	12:33:55

1	MR. JONES: Okay. I'll do my best, but I	12:33:57
2	don't think we've come close to that. But I'll do	12:34:00
3	my best.	12:34:02
4	Q Who did you meet with in preparation for	12:34:03
5	today's deposition?	12:34:10
6	A I met with Carrie virtually.	12:34:12
7	Q Okay. Did you meet with anyone else	12:34:18
8	besides Carrie in preparation for today's	12:34:20
9	deposition?	12:34:23
10	A No.	12:34:23
11	Q Okay. How long did you meet with Carrie	12:34:25
12	in preparation for today's deposition?	12:34:27
13	A I think we were somewhere near an hour.	12:34:32
14	Q Okay. And was that hour the only	12:34:37
15	preparation you did with Carrie for today's	12:34:40
16	deposition?	12:34:43
17	A No.	12:34:44
18	Q Okay. What else -- what other meetings	12:34:46
19	did you have in preparation for today's deposition?	12:34:50
20	MS. RICHEY: Objection, form.	12:34:53
21	A Okay. Okay. So I answer that anyway for	12:35:00
22	this meeting, correct? Even though an objection was	12:35:04

1	made, I still answer the question?	12:35:08
2	Q Yes. Unless she instructs you not to	12:35:09
3	answer, you answer, is kind of how it works.	12:35:11
4	A Okay. So a couple months ago, maybe, I	12:35:14
5	was alerted to this, and I met with someone from	12:35:23
6	Carrie's office, might have been Carrie, and then --	12:35:27
7	MS. RICHEY: Let me just interject,	12:35:32
8	because the question is about what you did to --	12:35:34
9	THE WITNESS: Prep for this meeting?	12:35:38
10	MS. RICHEY: -- prepare for this	12:35:39
11	deposition.	12:35:40
12	THE WITNESS: Okay.	12:35:41
13	MS. RICHEY: And so maybe we need to have	12:35:42
14	a conversation. I can -- if we go off record, I can	12:35:45
15	talk to Mr. Ray, and I can explain, you know, in the	12:35:48
16	context of privilege a little bit better.	12:35:51
17	MR. JONES: Okay. Let's go off record.	12:35:54
18	VIDEOGRAPHER: We are going off the	12:35:56
19	record at 12:35.	12:35:57
20	(Recess from 12:35 p.m. until 12:44 p.m.)	12:44:25
21	VIDEOGRAPHER: We are back on the record	12:44:25
22	at 12:44.	12:44:32

1	BY MR. JONES:	12:44:36
2	Q All right. Before we broke, we were	12:44:37
3	talking about your preparation for today's	12:44:40
4	deposition.	12:44:42
5	Do you recall that?	12:44:42
6	A Yes.	12:44:43
7	Q And maybe we can just tick back through	12:44:43
8	what you did to prepare.	12:44:47
9	Who did you meet with to prepare for	12:44:48
10	today's deposition?	12:44:52
11	A So I met with Carrie yesterday and about	12:44:54
12	a week ago, and she had a cohort with her a week	12:44:58
13	ago.	12:45:01
14	Q Okay. And yesterday, when you met with	12:45:02
15	Carrie, approximately how long did you meet with	12:45:05
16	counsel in preparation for today's deposition?	12:45:08
17	A I think it took an hour or so. I tend to	12:45:11
18	think in an hour block. So it might have been	12:45:18
19	substantially shorter than that.	12:45:21
20	Q And then you said that you also met with	12:45:26
21	counsel a week ago. Approximately how long did you	12:45:28
22	meet with counsel in preparation for today's	12:45:31

1	deposition when you met a week ago?	12:45:34
2	A That was about a two-hour block.	12:45:36
3	Q Okay. Were there any other meetings with	12:45:38
4	counsel in preparation for today's deposition	12:45:41
5	besides those two?	12:45:43
6	A No.	12:45:45
7	Q Okay. Did you meet with anyone other	12:45:46
8	than counsel in preparation for today's deposition?	12:45:49
9	A No.	12:45:52
10	Q Have you discussed today's deposition	12:45:52
11	with anyone other than counsel?	12:45:55
12	A Yes.	12:45:57
13	Q Who did you discuss today's deposition	12:45:59
14	with?	12:46:00
15	A My family.	12:46:01
16	Q Okay. Aside from your family and	12:46:03
17	counsel, did you discuss this deposition with anyone	12:46:06
18	else?	12:46:09
19	A No.	12:46:09
20	Q Did you discuss today's deposition with	12:46:10
21	anyone employed by Inneos?	12:46:12
22	A No.	12:46:15

1	Q	Did you discuss today's deposition with	12:46:16
2		Eric Grann or Brian Peters?	12:46:19
3	A	No.	12:46:22
4	Q	Okay. Are you aware that Inneos	12:46:22
5		submitted a declaration from an expert witness named	12:46:27
6		Dr. Lebby?	12:46:30
7	A	No.	12:46:31
8		MS. RICHEY: Objection, scope.	12:46:32
9	Q	Have you seen Dr. Lebby's expert	12:46:38
10		declaration in this IPR?	12:46:42
11		MS. RICHEY: Objection, scope.	12:46:42
12	Q	You can answer.	12:46:46
13	A	No.	12:46:47
14	Q	Okay. What documents have you seen from	12:46:47
15		this IPR?	12:46:51
16		MS. RICHEY: Objection, form.	12:46:54
17	A	It blurs together.	12:46:58
18	Q	Okay. Can you recall any documents that	12:47:00
19		you've seen from this IPR?	12:47:03
20		MS. RICHEY: Objection, form.	12:47:06
21	A	The first three you've shown me, I can	12:47:10
22		definitely recall.	12:47:13

1	Q	Okay. So you saw your two prior	12:47:15
2		declarations and your current declaration, correct?	12:47:18
3	A	Yes.	12:47:21
4	Q	Okay. And did you review the '416 patent	12:47:21
5		in preparation for today's deposition?	12:47:24
6	A	I remember several weeks ago having gone	12:47:27
7		through it very quickly.	12:47:31
8	Q	Okay. Did you review any other materials	12:47:33
9		from the prosecution history in preparation for	12:47:37
10		today's deposition?	12:47:39
11	A	No.	12:47:40
12	Q	Did you review the provisional patent	12:47:41
13		application or any of the invention disclosures	12:47:44
14		relating to the '416 patent in preparation for	12:47:46
15		today's deposition?	12:47:48
16	A	Yes. I've gone through those.	12:47:50
17	Q	Okay. So you reviewed the provisional	12:47:55
18		patent application, correct?	12:47:59
19	A	Yes. I remember seeing several versions	12:48:02
20		of it.	12:48:05
21	Q	Okay. And you reviewed the invention	12:48:06
22		disclosures relating to the '416 patent, correct?	12:48:09

1	A	Isn't that what you just asked me?	12:48:12
2		MS. RICHEY: Wait. I just want to	12:48:12
3		interject. I don't think he understood your	12:48:13
4		question, Michael.	12:48:15
5		Can you -- you gave him a compound	12:48:17
6		question on the provisional and the invention	12:48:21
7		disclosures. So can you re-ask that?	12:48:23
8		MR. JONES: That's what I was just doing.	12:48:24
9		So I gave him a compound, and then I came back with	12:48:27
10		provisional, and he said yes, and now I'm asking,	12:48:28
11		invention disclosures.	12:48:29
12		MS. RICHEY: And then he said, you just	12:48:30
13		asked me that. So there's some confusion.	12:48:32
14	Q	So there's something called a provisional	12:48:34
15		patent application that your attorneys wrote that	12:48:37
16		led to the '416 patent application.	12:48:39
17		Do you recall that?	12:48:42
18	A	Okay.	12:48:43
19	Q	Did you review that in preparation for	12:48:44
20		today's deposition?	12:48:45
21	A	I don't know if I saw their application.	12:48:48
22		I remember seeing my writing as to what we gave to	12:48:51

1	the attorneys. But I don't recall seeing what the	12:48:56
2	attorneys gave to the Patent Office.	12:49:00
3	Q Okay. And what do you call those	12:49:02
4	writings that you gave the attorneys, if we want to	12:49:06
5	give those a term?	12:49:10
6	A It was a term on the sheet, on the	12:49:12
7	record. It was 20 years ago, so I don't use that	12:49:15
8	format anymore.	12:49:18
9	Q Okay. If I call those invention	12:49:19
10	disclosures, will that make sense?	12:49:23
11	A Yes.	12:49:25
12	Q Okay. And did you review the invention	12:49:26
13	disclosures in this IPR?	12:49:28
14	A Yes.	12:49:31
15	Q Okay. Go ahead.	12:49:33
16	A I imagine it was in the IPR, yeah.	12:49:35
17	Q Did you review the declarations of anyone	12:49:38
18	else in preparation for today's deposition?	12:49:42
19	A I don't know if they were declarations.	12:49:49
20	I saw notebooks from Eric Grann, clips from that. I	12:49:51
21	saw files, file pages.	12:49:57
22	Q Okay. And how about anything from Brian	12:50:01

1	Peters?	12:50:03
2	A No.	12:50:04
3	Q Anything else --	12:50:06
4	A I saw his signature. I saw his signature	12:50:07
5	on my notebook.	12:50:10
6	Q Okay. Aside from the notebooks from Eric	12:50:11
7	Grann and some files, did you see any other	12:50:15
8	materials from Eric Grann?	12:50:17
9	MS. RICHEY: Objection, form.	12:50:19
10	A That's kind of lost in the noise.	12:50:25
11	Q Yeah, so are you asking me to re-ask the	12:50:27
12	question?	12:50:33
13	A No. My answer is that I may have. It's	12:50:34
14	a little bit lost in the noise.	12:50:37
15	Q Okay. Can you recall anything else you	12:50:39
16	reviewed in preparation for today's deposition that	12:50:42
17	we've not already mentioned?	12:50:44
18	A Nothing stands out.	12:50:47
19	Q So is it fair to say you cannot recall	12:50:52
20	anything else you reviewed in preparation for	12:50:55
21	today's deposition that has not been mentioned?	12:50:57
22	A Yeah, I think that's a fair answer. I	12:51:03

1	would have to work at it to recall what I can	12:51:06
2	recall.	12:51:08
3	Q Okay. So I understand that you no longer	12:51:10
4	work for Inneos.	12:51:17
5	Is that correct?	12:51:18
6	A That's correct.	12:51:19
7	Q Okay. So I'd like to get a little bit of	12:51:21
8	an understanding of your background and history,	12:51:23
9	then.	12:51:26
10	Is that okay?	12:51:26
11	A Sure.	12:51:27
12	Q Maybe you could just start off by giving	12:51:27
13	me a brief summary of your educational background.	12:51:31
14	A So BSME from Purdue, came to California,	12:51:35
15	studied a lot of software and electronics through	12:51:40
16	Berkeley extension. Then got a master's in business	12:51:45
17	from Berkeley.	12:51:50
18	Q What years were you at Berkeley?	12:51:56
19	A I was -- so with the electronics from '81	12:52:02
20	up to '86, in which case I transferred to MBA and	12:52:05
21	got my MBA in late '89.	12:52:15
22	Q Okay. And then how about after 1989,	12:52:23

1	what did you do then?	12:52:25
2	A Startup companies.	12:52:26
3	Q Okay. And what were those --	12:52:28
4	(Cross-talk.)	12:52:30
5	Q Sorry, go ahead.	12:52:31
6	A So I'm a serial entrepreneur. So I've	12:52:31
7	done MEMS companies, a software company, a silicon	12:52:35
8	foundry, an electric car company, a -- I joined with	12:52:43
9	Blaze after that doing optical interconnects.	12:52:51
10	I've been on boards of companies for	12:52:58
11	optical cross-connects for precision inertial mass	12:53:04
12	units, automotive tire pressure sensors, flat panel	12:53:10
13	display touch panels.	12:53:28
14	And then most recently, on MEMS mirrors	12:53:31
15	for LiDAR in automotive applications.	12:53:45
16	Q Okay. So let's focus on your work in the	12:53:48
17	optical field.	12:53:53
18	Have you worked with anyone other than	12:53:55
19	Blaze, Aduro, Inneos, in the optical space?	12:53:59
20	A Yes.	12:54:03
21	MS. RICHEY: Objection.	12:54:03
22	A Yes.	12:54:08

1	Q	Who was that?	12:54:10
2	A	That would be Transparent Networks. We	12:54:12
3		made optical cross-connects.	12:54:17
4	Q	And when did you work with them?	12:54:20
5	A	I was on their board about the same time	12:54:23
6		as I joined Blaze.	12:54:26
7	Q	Okay. And when did you join Blaze?	12:54:28
8	A	Would have been about the 2000 time	12:54:35
9		frame.	12:54:38
10	Q	How long were you at Blaze?	12:54:41
11	A	Until we did a management buyout.	12:54:44
12	Q	And when --	12:54:47
13	A	So maybe three years. Two years, three	12:54:51
14		years.	12:54:54
15	Q	Okay. What types of projects did you	12:55:03
16		work on while you were at Blaze?	12:55:05
17		MS. RICHEY: Objection, scope.	12:55:08
18	A	We developed the first version of the	12:55:14
19		CWDM transceiver. I was VP of engineering.	12:55:22
20	Q	And what time frame was that?	12:55:29
21		MS. RICHEY: Objection, scope.	12:55:33
22		MR. JONES: Carrie -- Carrie, paragraph 2	12:55:36

1 of his declaration about is his time at Inneos. 12:55:39

2 THE WITNESS: You're asking about time 12:55:43

3 and place. 12:55:44

4 MR. JONES: Sorry, Blaze. So I don't 12:55:45

5 think the scope objection is proper, and it's 12:55:47

6 somewhat disruptive to the flow. 12:55:50

7 I'll re-ask my question. 12:55:54

8 MS. RICHEY: You're asking him about 12:55:57

9 specifically when you developed the first version of 12:55:58

10 the CWDM transceiver. That's a -- 12:56:01

11 MR. JONES: Okay. 12:56:07

12 MS. RICHEY: That's what you're asking, 12:56:07

13 not the time frame that he was at Blaze. 12:56:09

14 Q Where did you develop the CWDM 12:56:11

15 transceiver? 12:56:15

16 A The first one, we developed at Blaze. 12:56:18

17 Q Okay. And you said "first one." 12:56:22

18 Were there others? 12:56:27

19 A Well, the patent of interest is also a 12:56:28

20 CWDM-type device. 12:56:33

21 Q Okay. So when did you develop the first 12:56:44

22 CWDM transceiver you were referring to? 12:56:49

1	MS. RICHEY: Objection, scope.	12:56:51
2	And I'm happy to do a standing scope	12:56:55
3	objection to anything related to the first CWDM	12:56:57
4	device.	12:57:02
5	MR. JONES: Sure.	12:57:04
6	A So I believe it was designed -- it was	12:57:09
7	originally designed or at least versions of it were	12:57:14
8	designed before I started with Blaze.	12:57:18
9	Q Okay. And then did you join Blaze as VP	12:57:32
10	of engineering?	12:57:34
11	A Yes.	12:57:35
12	Q And what were your roles as VP of	12:57:37
13	engineering at Blaze?	12:57:39
14	A I managed and grew a group of engineers	12:57:41
15	to, I believe, 25 or 30 people that we designed,	12:57:45
16	developed, and tested different versions of optical	12:57:51
17	transceivers.	12:57:57
18	Q Okay. And during what time period was	12:57:58
19	that?	12:58:00
20	A From 2000 until when Inneos was formed.	12:58:03
21	Q Okay. And when was Inneos formed?	12:58:07
22	A Sometime in the 2003 time frame.	12:58:09

1 Q Okay. Did Blaze just become Inneos? Is 12:58:13
2 that what happened? 12:58:20
3 MS. RICHEY: Objection, form. 12:58:20
4 A It's a lot more complicated than that, 12:58:22
5 and Brian Peters would be your testimony there. He 12:58:25
6 managed and did all of the magic of that. 12:58:31
7 Q Okay. What's your best recollection as 12:58:34
8 to how Blaze became Inneos? 12:58:36
9 MS. RICHEY: Objection, form, scope. 12:58:39
10 A We did a management buyout of the 12:58:43
11 company. We were no longer VC viable. We had lost 12:58:48
12 a bid at an IEEE transaction, and therefore would 12:58:55
13 not be a 10X or 100X multiple of investment. 12:59:03
14 Q Okay. And are either Blaze or Inneos 12:59:10
15 Aduro? 12:59:16
16 MS. RICHEY: Objection, scope, form. 12:59:18
17 A Yeah, I'm not sure why I would be 12:59:24
18 testifying about that. 12:59:26
19 But yes. 12:59:27
20 Q There's a lot of different company names 12:59:29
21 in these various declarations, and I'm trying to 12:59:31
22 figure out how they relate to each other. 12:59:33

1	MS. RICHEY: And I'm objecting to those	12:59:37
2	because of scope.	12:59:38
3	Q In paragraph 2 of your declaration,	12:59:39
4	Exhibit 2045, you refer to Blaze, Aduro -- Inneos,	12:59:44
5	Blaze, Aduro, and ONP.	12:59:49
6	Can you please tell me the relationship	12:59:50
7	between those four companies.	12:59:52
8	MS. RICHEY: Objection, form.	12:59:54
9	A Those are all holders of the technology	12:59:58
10	of interest. In one form or another, they have	13:00:03
11	acquired the assets that you're interested in.	13:00:08
12	Q And when you say "the assets that you're	13:00:22
13	interested in," what are you referring to?	13:00:24
14	MS. RICHEY: Objection, form, scope.	13:00:26
15	A I believe we're discussing the patent. I	13:00:33
16	consider patents as an asset.	13:00:38
17	Q Okay. Do those companies that you	13:00:41
18	referred to in paragraph 2 of your declaration, do	13:00:44
19	they have any relationship other than as	13:00:46
20	patent-holding companies?	13:00:51
21	MS. RICHEY: Objection, form and scope.	13:00:51
22	A Sure. I mean, they own physical assets	13:00:57

1 as well. They purchased stock from -- as one 13:01:02
2 company became another. 13:01:15
3 Q Is it fair to say that Blaze became 13:01:22
4 Aduro, and Aduro became Inneos? 13:01:28
5 A No. Aduro became ONP, and ONP became 13:01:34
6 Inneos. 13:01:43
7 Q Okay. Thank you. 13:01:43
8 And during the time that you were working 13:01:50
9 on CWDM transceivers, which of those companies were 13:01:53
10 you working for? 13:02:02
11 MS. RICHEY: Objection, form. 13:02:03
12 A I think from time to time, I might have 13:02:13
13 had contracts with ONP. I don't think that Inneos 13:02:15
14 ever contracted me. But this is Silicon Valley, so 13:02:23
15 we all do each other different consulting jobs. 13:02:32
16 Q How about Blaze and Aduro, did you work 13:02:41
17 for them or were you contracted by them? 13:02:43
18 A So Blaze, I worked for as an employee. 13:02:45
19 And Aduro, we were essentially co-founders, if you 13:02:48
20 will, of the management buyout. So I don't know if 13:02:53
21 I ever got paid by Inneos. Probably for some period 13:02:57
22 of it, but not for the majority. 13:03:01

1	Q	Okay. You said "we."	13:03:03
2		Were you a co-founder of Aduro?	13:03:05
3	A	Yeah, I believe it was Eric Grann and	13:03:08
4		Brian Peters and one other fellow, a marketing-type.	13:03:13
5	Q	And you were familiar with Aduro's	13:03:23
6		products during this time frame?	13:03:25
7	A	Yes.	13:03:27
8		MS. RICHEY: Objection, scope.	13:03:27
9		THE WITNESS: I'll try and slow down for	13:03:32
10		the court reporter.	13:03:33
11		MS. RICHEY: And for my objections.	13:03:34
12	Q	Okay. So I realize that you're not	13:03:44
13		currently an employee of Inneos.	13:03:47
14		Are you being compensated for your time	13:03:49
15		today?	13:03:51
16	A	No.	13:03:51
17	Q	Are you being compensated for any of the	13:03:53
18		time you spent preparing?	13:03:56
19	A	No.	13:03:57
20	Q	Were you compensated for the preparation	13:03:58
21		or execution of your IPR declaration?	13:04:03
22	A	The IPR -- this current IPR declaration,	13:04:12

1	no.	13:04:15
2	Q Okay. So go ahead.	13:04:18
3	A The one from '06, no. If there were	13:04:23
4	declarations prior to that for the patent execution,	13:04:28
5	I cannot recall whether we were paying ourselves at	13:04:34
6	the time of Aduro.	13:04:39
7	Q Okay. Have you been paid in any way by	13:04:42
8	Inneos or its counsel for any work relating to the	13:04:46
9	IPR?	13:04:50
10	A No.	13:04:50
11	Q Have you been paid by Innecos or its	13:04:51
12	counsel for anything in the past year?	13:04:53
13	A No.	13:04:55
14	Q Past five years?	13:04:56
15	A No.	13:04:58
16	Q Okay. Do you have a financial interest	13:04:59
17	in the outcome of this IPR?	13:05:02
18	A No.	13:05:05
19	Q For instance, do you get any royalties	13:05:11
20	relating to the '416 patent?	13:05:15
21	A No. I wish I were German. But no.	13:05:16
22	Q Do you have any remaining stock interest	13:05:22

1	in Inneos?	13:05:25
2	A No.	13:05:26
3	Q Do you have any financial interest in	13:05:27
4	Inneos at all?	13:05:29
5	A No.	13:05:30
6	Q Okay. Are you aware that there is a	13:05:30
7	corresponding District Court case between Inneos and	13:05:34
8	Opticis?	13:05:39
9	A I've heard of something like that.	13:05:40
10	Q Okay. Do you have any financial interest	13:05:44
11	in the outcome of that District Court case?	13:05:47
12	A No.	13:05:48
13	Q So you don't get any kind of payout or	13:05:49
14	anything like that if Inneos gets a big monetary	13:05:53
15	judgment against someone on your patent?	13:05:56
16	A No.	13:05:58
17	Q So it sounds like you have no continued	13:05:59
18	financial interest at all in the '416 patent or	13:06:02
19	Inneos.	13:06:06
20	Is that fair?	13:06:06
21	A Correct.	13:06:07
22	MR. JONES: Okay. We've hit about the	13:06:13

1	hour mark. Usually we stop around now. I know you	13:06:15
2	wanted to bring an intern in, Carrie. Do you want	13:06:18
3	to take a quick break, or do you want to keep going?	13:06:20
4	It's up to either of you.	13:06:26
5	MS. RICHEY: I'll leave it up to Curtis.	13:06:27
6	THE WITNESS: Personally, I could go	13:06:30
7	another hour before grabbing a cup of coffee.	13:06:32
8	MR. JONES: We can certainly continue,	13:06:32
9	then.	13:06:40
10	COURT REPORTER: I wouldn't mind a	13:06:40
11	restroom break.	13:06:43
12	MR. JONES: Well, let's take a quick	13:06:43
13	break, then.	13:06:44
14	VIDEOGRAPHER: We're going off the record	13:06:44
15	at 1:06.	13:06:45
16	(Recess from 1:06 p.m. until 1:14 p.m.)	13:13:54
17	VIDEOGRAPHER: We are back on the record	13:13:54
18	at 1:14.	13:14:03
19	MS. RICHEY: This is Carrie Richey. I	13:14:06
20	just want to note that we have Devin Owens that has	13:14:08
21	joined us, and he's a summer associate at Womble and	13:14:12
22	will be observing.	13:14:16

1	MR. JONES: All right. Thank you,	13:14:28
2	everyone. Welcome.	13:14:30
3	BY MR. JONES:	13:14:36
4	Q Let's look at paragraph 4 of your IPR	13:14:37
5	declaration, Exhibit 2045.	13:14:40
6	And you state that you submitted two	13:14:49
7	declarations attesting to activities surrounding the	13:14:51
8	conception and reduction of the invention of the	13:14:56
9	'416 patent.	13:15:02
10	A Yes.	13:15:05
11	Q Do you see that?	13:15:06
12	A Yes.	13:15:06
13	A/V TECH: Mr. Ray, if you would like to	13:15:09
14	click on the screen, you have control of the	13:15:11
15	document now.	13:15:13
16	THE WITNESS: Okay.	13:15:14
17	Q You then later state in that same	13:15:15
18	paragraph that your declarations are true and	13:15:18
19	accurate reflections of your personal experience	13:15:21
20	with the conception and reduction to practice of the	13:15:25
21	'416 patent.	13:15:27
22	A Yes.	13:15:29

1	Q	Do you see that?	13:15:29
2	A	That's at the end, right?	13:15:31
3	Q	No. It's in paragraph 4, actually.	13:15:32
4	A	Yes.	13:15:42
5	Q	Do you stand by that statement?	13:15:43
6	A	Yes.	13:15:45
7	Q	Okay. Let's take a look at the '416	13:15:45
8		patent. It's Exhibit 1001, which I think you can	13:15:50
9		see at the top of the screen there.	13:15:55
10		So if you look at the front page here, in	13:15:58
11		that top left, there's three inventors.	13:16:01
12		Do you see that?	13:16:03
13	A	Yes.	13:16:03
14	Q	It's Curtis A. Ray, Eric B. Grann, and	13:16:04
15		Brian C. Peters, correct?	13:16:10
16	A	Yes.	13:16:12
17	Q	What was everyone's role, these three	13:16:13
18		inventors, at --	13:16:19
19		MS. RICHEY: Objection.	13:16:20
20		Sorry, I thought you were done.	13:16:21
21	Q	What was everyone's role, these three	13:16:22
22		inventors, at Blaze at this time?	13:16:26

1 MS. RICHEY: Objection, form, scope. 13:16:29

2 A Everyone contributed quite a bit during 13:16:35

3 this time period. 13:16:38

4 Eric is a brilliant optical engineer. He 13:16:41

5 thinks of everything in equations. 13:16:49

6 Brian is a brilliant operations person 13:16:52

7 and thinks of everything as a process and a cost of 13:16:55

8 goods sold. 13:17:00

9 And I was the one who was trying to 13:17:01

10 figure out if we could make a combiner with an 13:17:08

11 offset launch work. 13:17:13

12 Q What is a combiner with an offset launch? 13:17:16

13 A It's what this patent is about, is making 13:17:19

14 a device that could combine multiple wavelengths of 13:17:25

15 fiber data links onto one fiber without using 13:17:32

16 optical filters. 13:17:40

17 Q And what's offset launch? 13:17:47

18 A It's a way of putting a collimated beam 13:17:49

19 onto a fiber such that you can -- it's not going 13:17:56

20 down the center of the fiber; it's going in through 13:18:00

21 an offset angle, normally a line directly. 13:18:03

22 Q And why would you do that? 13:18:09

1 A So that you can put multiple beams 13:18:10
2 through the same fiber. Fibers are already in a 13:18:13
3 building. If you want to increase the data rate 13:18:25
4 through the fiber, you have to invent ways of 13:18:27
5 getting more data through the fiber without 13:18:31
6 replacing the fiber. That's a market. 13:18:33
7 Q And how did the invention of the '416 13:18:37
8 accomplish that? 13:18:41
9 A It allowed us to make a mux that had less 13:18:42
10 assembly requirements and less cost of goods. 13:18:48
11 Q And what was your role in developing the 13:18:56
12 invention of the '416? 13:18:59
13 A I think I was primary because I was the 13:19:04
14 first to conceive of and sketch the idea, as noted 13:19:06
15 in my notebook. 13:19:10
16 Q And what was the idea that you conceived 13:19:22
17 of and sketched? 13:19:25
18 MS. RICHEY: Objection, form. 13:19:26
19 A If you want to -- if you want me to pull 13:19:29
20 it up, I can. But I think it's pretty self-evident 13:19:34
21 in the document. It shows four different -- it 13:19:42
22 either shows four lenses focusing down onto one 13:19:50

1	fiber or it shows one lens focused at offset to that	13:19:54
2	fiber.	13:19:58
3	Q Let's go back to Exhibit 1002. And go to	13:20:03
4	page --	13:20:12
5	A This one is Eric's version of it. It	13:20:28
6	shows the same with the idea that he's got the	13:20:30
7	wavelengths actually specified here, lambda 1,	13:20:34
8	lambda 2, lambda 3, lambda 4.	13:20:38
9	Q Sorry. Just before you move at, just for	13:20:41
10	the record, what were you looking at?	13:20:44
11	A This is Eric's notebook, and he	13:20:45
12	specifically labels the different wavelengths on the	13:20:48
13	laser array.	13:20:52
14	Q Okay. So this image we see here on	13:20:53
15	page 11 of Eric Grann's notebook, is this your	13:20:56
16	invention?	13:21:00
17	A This is the same invention, yes.	13:21:00
18	MS. RICHEY: Objection, form.	13:21:02
19	Q If you could just walk me through, maybe	13:21:03
20	we can go left to right, the different pieces of	13:21:05
21	your invention here.	13:21:08
22	A Yeah. So the left is -- the leftmost --	13:21:09

1	can you see my mouse?	13:21:14
2	Q I can.	13:21:16
3	A That's recorded, then.	13:21:17
4	So this leftmost array is titled 2D laser	13:21:18
5	array. So in this case, he has four lasers	13:21:23
6	represented by the four squares. And he has	13:21:27
7	lambda 1, lambda 2, lambda 3, and lambda 4 labeled	13:21:30
8	onto them.	13:21:33
9	The next block over is a lens array,	13:21:34
10	which these are aligned to the laser array, and then	13:21:38
11	they are focusing down through a coupling lens onto	13:21:46
12	a fiber.	13:21:52
13	Q Okay. What makes what we see here	13:21:57
14	special?	13:21:59
15	MS. RICHEY: Objection, form.	13:22:00
16	A Up until this point, the lasers were	13:22:04
17	always concentric with the center of the fiber, or	13:22:10
18	the fiber -- the laser beams were concentric with	13:22:14
19	the fiber. There was not an offset to the launch.	13:22:17
20	Q Can you explain a little bit more about	13:22:23
21	what that means.	13:22:25
22	A If I took an optical signal through the	13:22:27

1 fiber, projected it out to the left, it would meet 13:22:32
2 right in the dead center of the laser array. It 13:22:37
3 would not be offset like the lasers are in this 13:22:40
4 array. 13:22:44
5 Q And it says on the left side of the 13:22:47
6 figure here on page 11 of the Grann notebook, it 13:22:50
7 says that you have a 2D laser array. 13:22:53
8 Do you see that? 13:22:57
9 A Yes. 13:22:57
10 Q What's the significance of using a 2D 13:22:58
11 laser array? 13:23:02
12 A It means that it's in both X and Y, it's 13:23:05
13 an array. A single-dimensional array would be just 13:23:11
14 in the X or just in the Y. 2D means that it's 13:23:16
15 arrayed in both directions. 13:23:20
16 Q So in this instance, you have two rows of 13:23:22
17 lasers? 13:23:26
18 A In this instance, there are two rows and 13:23:29
19 two columns of lasers. 13:23:31
20 Q Okay. What's the significance of having 13:23:33
21 the lasers in rows? 13:23:34
22 MS. RICHEY: Objection, form. 13:23:39

1	A	For this purpose, it allows for an equal	13:23:45
2		offset in all four lasers.	13:23:50
3	Q	And what about the lens array to the	13:24:02
4		right of the lasers, what's shown there?	13:24:04
5		MS. RICHEY: Objection, form.	13:24:07
6	A	That shows four lenses that one would	13:24:08
7		assume, given the technical expertise of the person	13:24:13
8		reading it, that those are aligned with the	13:24:18
9		corresponding two-dimensional laser array.	13:24:22
10	Q	And why would the person reading it	13:24:26
11		assume that those are aligned with the corresponding	13:24:28
12		two-dimensional laser array?	13:24:32
13	A	Someone skilled in the art would just --	13:24:38
14		would know that. That's the way you would line them	13:24:44
15		up.	13:24:48
16	Q	Okay. And then what's to the right of	13:24:50
17		the lens array in this image on page 11 of the Grann	13:24:52
18		notebook?	13:24:56
19	A	That's a coupling lens. It takes the	13:24:57
20		beams coming out of the lens array and projects them	13:25:01
21		onto the fiber.	13:25:05
22	Q	And what's special about that coupling	13:25:06

1	lens?	13:25:10
2	MS. RICHEY: Objection, form.	13:25:11
3	A It's any optical system, you can use	13:25:20
4	different methodologies for focusing your beam in	13:25:23
5	the right place with the right amount of energy	13:25:28
6	distribution. And that's what that coupling lens	13:25:30
7	does.	13:25:39
8	Q How does that coupling lens -- in the	13:25:39
9	image shown here on page 11, how does that focus the	13:25:41
10	beam in the right place with the right amount of	13:25:46
11	energy distribution?	13:25:48
12	MS. RICHEY: Objection, form.	13:25:49
13	A So Eric would have taken you -- or could	13:25:58
14	take you through the equations used in order to	13:26:00
15	project that.	13:26:04
16	Q Okay. But can you tell, looking at this,	13:26:07
17	how the light from the lasers make it through the	13:26:10
18	lens array and onto the fiber?	13:26:15
19	MS. RICHEY: Objection, form.	13:26:20
20	A I'm not understanding -- I'm not sure I	13:26:25
21	understand your question. Are you wanting me to	13:26:27
22	draw up an equation or do a ray tracing, or what is	13:26:29

1 it that you would like to see about this? 13:26:34

2 Q Are you able to do an a ray tracing on 13:26:36

3 the image shown here? 13:26:44

4 MS. RICHEY: Objection, form. 13:26:45

5 A In basics, you could simply draw a cone 13:26:47

6 coming out of the laser, the cone being turned into 13:26:52

7 a straight beam, and the straight beam coming from 13:26:55

8 the coupling lens back into cones onto the fiber. 13:26:59

9 Q So you say the cone is turned into a 13:27:19

10 straight beam. 13:27:21

11 What does that in this image on page 11? 13:27:22

12 A The first lens array is a collimation 13:27:24

13 lens. So you take the cone, slightly alter the 13:27:30

14 cone, focus it down slightly so that it comes out as 13:27:36

15 a series of parallel ray traces, essentially a round 13:27:40

16 circle. 13:27:45

17 Q Okay. And then those parallel ray traces 13:27:46

18 from the lens array, where do they go from there in 13:27:49

19 this image upon page 11? 13:27:53

20 A Into the coupling lens. 13:27:55

21 Q Okay. And where -- where on the coupling 13:27:57

22 lens do they enter the coupling lens? 13:28:02

1 MS. RICHEY: Objection, form. 13:28:11

2 A Yeah, can you -- before I get all 13:28:15

3 technical on you, can you describe what you're after 13:28:21

4 so that I know how to phrase the answer? 13:28:23

5 Q Yeah. So do all the -- does all the 13:28:26

6 light from the lens array go to the center of the 13:28:28

7 coupling lens, for instance? 13:28:30

8 MS. RICHEY: Objection, form. 13:28:32

9 A It's the surface. They're all 13:28:36

10 essentially parallel at that point. 13:28:39

11 Q Okay. Do they -- they're parallel beams. 13:28:45

12 But where do they -- what's the word? Where do they 13:28:48

13 hit the coupling lens on its surface? 13:28:54

14 MS. RICHEY: Objection, form. 13:28:57

15 A They would essentially hit in the same 13:29:06

16 pattern as what you see on the lens array. 13:29:08

17 Q Okay. So you'd have one on the top left, 13:29:19

18 one on the top right, one on the bottom left, and 13:29:23

19 one on the bottom right, on the face of the coupling 13:29:26

20 lens, basically? 13:29:30

21 A Correct. 13:29:31

22 Q Okay. And how can we tell that from this 13:29:31

1	picture?	13:29:33
2	MS. RICHEY: Objection, form.	13:29:34
3	A Am I describing it to you? Am I	13:29:46
4	describing it to a jury? Am I describing it to -- I	13:29:48
5	don't know the -- it seems like you might as well	13:29:51
6	ask me if I hold a match underneath a piece of wood,	13:29:55
7	what is going to happen next.	13:29:59
8	Q So just meaning it's obvious that's what	13:30:00
9	happens?	13:30:07
10	A Yes.	13:30:08
11	MS. RICHEY: Objection, form.	13:30:09
12	Q Maybe try to explain why in simplest	13:30:11
13	terms.	13:30:15
14	MS. RICHEY: Objection, form.	13:30:22
15	There's no question.	13:30:23
16	A Yeah, I agree with that. I don't know	13:30:24
17	what kind of question I'm answering.	13:30:26
18	Q Yeah, so we had talked about earlier how	13:30:28
19	we can tell that the light from the lens array is	13:30:32
20	hitting the coupling lens, top left, top right,	13:30:34
21	bottom left, bottom right, and I asked, quote, How	13:30:37
22	can we tell that from this picture?	13:30:39

1	Can you please explain to me how we know	13:30:40
2	that in simplest terms.	13:30:46
3	MS. RICHEY: Objection, form.	13:30:47
4	A If I have a magnifying glass and I put a	13:30:56
5	flame in front of the magnifying glass, on the other	13:31:01
6	side of the magnifying glass, there's going to be an	13:31:05
7	image of that flame. It's going to be inverted.	13:31:09
8	And you're taught that in physics 101, and you're	13:31:12
9	taught why it's inverted. And you can do the ray	13:31:17
10	tracing.	13:31:22
11	And someone that I would expect to hire	13:31:23
12	directly out of school without an optical	13:31:26
13	engineering degree would be able to understand that.	13:31:29
14	And likewise, somebody that has been	13:31:34
15	working with optical fibers and lenses and muxes and	13:31:37
16	demuxes would look at this image and understand with	13:31:46
17	great clarity what the attempt was to create an	13:31:51
18	optical combiner without filters.	13:31:55
19	Q Okay. And in this picture, which -- sort	13:32:00
20	of which parts of this are the optical combiner?	13:32:03
21	MS. RICHEY: Objection, form.	13:32:06
22	A That gets into all kinds of terminology	13:32:14

1 and verbiage as to how you describe a physical 13:32:17
2 system with words. 13:32:21

3 Q Okay. So maybe we can circle back to my 13:32:25
4 previous question because I'm not sure I fully 13:32:29
5 understand. And I apologize if I'm just missing the 13:32:32
6 point. But I'll try again. 13:32:35

7 So as we talked about earlier, the 13:32:38
8 collimated light from the lens array is going to 13:32:42
9 reach the coupling lens on the coupling lens's 13:32:47
10 surface, and we called it the upper left, bottom 13:32:50
11 left, upper right, and lower right quadrants of the 13:32:55
12 coupling lens, correct? 13:32:59

13 A Yes. 13:33:02

14 Q Okay. How do you know, looking at the 13:33:02
15 picture on page 11 of the Grann notebook, that 13:33:04
16 that's where the light reaches the coupling lens in 13:33:09
17 those quadrants? 13:33:12

18 MS. RICHEY: Objection, form. 13:33:16

19 A Yeah, I don't think I'm being employed 13:33:21
20 here as a technical witness for the prosecution of 13:33:25
21 this patent. 13:33:29

22 Q That's fine. And if you don't know, 13:33:33

1 that's okay. I'm just asking if you can tell, and 13:33:35
2 if so, how do you know. 13:33:38
3 MS. RICHEY: Objection, form. And 13:33:39
4 there's -- 13:33:41
5 A Yeah, I sort of feel like you're either 13:33:45
6 playing dumb or I don't know how to dumb it down 13:33:48
7 enough for you to understand it. 13:33:50
8 Q In this picture, is it possible that the 13:34:03
9 light from -- the collimated light from the lens 13:34:06
10 array is not hitting those four quadrants on the 13:34:08
11 coupling lens? 13:34:13
12 MS. RICHEY: Objection, form. 13:34:13
13 A It would not be obvious that that is his 13:34:21
14 intent. If it was his intent, he would have 13:34:28
15 documented it differently. 13:34:31
16 Q What would have been obvious? 13:34:33
17 MS. RICHEY: Objection, form. 13:34:35
18 A Yeah, I don't feel like there's a 13:34:43
19 question there. 13:34:45
20 Q Is it obvious, looking at this picture, 13:34:46
21 that the collimated light from the lens array hits 13:34:53
22 the four quadrants of the coupling lens? 13:34:56

1	A	Yes.	13:34:59
2		MS. RICHEY: Objection, form.	13:35:00
3	Q	Okay. And then what happens after the	13:35:01
4		coupling lens in this picture?	13:35:07
5		MS. RICHEY: Objection, form.	13:35:08
6	A	What happens between the holes of these	13:35:13
7		lenses is delicately described in Zemax. You can	13:35:20
8		visualize it in your brain. You can visualize it	13:35:26
9		with ray tracing. But the best energy transfer with	13:35:29
10		the lowest noise is occurred when you do this	13:35:36
11		modeling in Zemax.	13:35:40
12		The basic concepts of it are shown, and	13:35:42
13		the detail of what the prescriptions of the lenses	13:35:45
14		are, how much they tilt, where they focus to,	13:35:49
15		whether they're in quadrants, whether they have a	13:35:52
16		particular amount of polarization, all of that is	13:35:57
17		described further in detail through the patent	13:36:04
18		description.	13:36:09
19		MR. JONES: Okay. Let's pull up document	13:36:38
20		I which is previously marked as Exhibit 1004.	13:36:40
21		A/V TECH: Please stand by.	13:36:47
22		(Previously marked Exhibit 1004 presented	13:36:47

1	to the witness.)	13:37:02
2	BY MR. JONES:	13:37:02
3	Q And please go to page 13 of the PDF. And	13:37:02
4	we can zoom on Figure 3, perhaps.	13:37:09
5	Have you ever seen this before, Mr. Ray?	13:37:16
6	MS. RICHEY: Objection, scope.	13:37:18
7	A I don't recall it.	13:37:22
8	Q Can you ascertain, based on your	13:37:25
9	experience, what's going on in Figure 3 there?	13:37:28
10	MS. RICHEY: Objection, scope, form.	13:37:32
11	MR. JONES: I'll give you a standing	13:37:35
12	objection on scope for this topic.	13:37:37
13	A I don't have control over this.	13:37:49
14	Oh, there it is.	13:37:51
15	Q So just so you know, this is a translated	13:37:54
16	document. So the front half is going to be in	13:37:56
17	Japanese, the back half is going to be the	13:37:58
18	translation into English.	13:38:01
19	Just out of curiosity, do you read	13:38:11
20	Japanese?	13:38:14
21	A No.	13:38:15
22	Q I don't either.	13:38:15

1	If you look at page 13, that will have	13:39:56
2	the translated version of Figure 3.	13:39:58
3	A Oh, you mean the descriptions are	13:40:24
4	translated. Okay.	13:40:26
5	Q Yeah, everything is translated.	13:40:27
6	A So I think your question would be better	13:40:37
7	for the technical expert that you're hiring for this	13:40:40
8	case.	13:40:47
9	Q Okay. So do you understand what's shown	13:40:49
10	here in Figure 3?	13:40:53
11	A Given that I couldn't describe the	13:40:56
12	previous one to you, I would hesitate to describe	13:40:58
13	this one to you.	13:41:01
14	Q Okay. Do you see the planar	13:41:02
15	monochromatic light source array, 10A?	13:41:09
16	A Yes.	13:41:14
17	Q And do you see the lens array 20?	13:41:14
18	A Yes.	13:41:16
19	Q And do you see the lens 30?	13:41:17
20	A Yes.	13:41:19
21	Q And do you see the optical fiber 40?	13:41:20
22	A Yes.	13:41:23

1	Q	Are you able to tell from this picture	13:41:24
2		how they're interacting with each other?	13:41:27
3		MS. RICHEY: Objection, form.	13:41:30
4	A	Are you?	13:41:36
5	Q	I am.	13:41:38
6	A	So you were just playing me with your	13:41:40
7		questions previously?	13:41:44
8	Q	No. So I don't get to testify because	13:41:45
9		I'm a lawyer.	13:41:47
10	A	Right.	13:41:48
11	Q	I have to talk to you. And then your	13:41:48
12		testimony is what people read, unfortunately. I	13:41:51
13		can't testify.	13:41:55
14	A	So my testimony is about what happened	13:41:56
15		back in 2003 and 2006 and what happened recently for	13:42:00
16		me being shown the documents that were of importance	13:42:05
17		back then.	13:42:10
18		Do you have any questions about that?	13:42:12
19	Q	I do.	13:42:13
20		How does what's shown in Figure 3 -- how	13:42:15
21		is that different than what was shown in Eric	13:42:18
22		Grann's notebook on page 11?	13:42:20

1	MS. RICHEY: Objection, form.	13:42:22
2	I just want to be clear for the record	13:42:23
3	that the standing scope objection applies to all	13:42:24
4	questioning related to this Exhibit 1004.	13:42:27
5	MR. JONES: Okay.	13:42:31
6	Q So I was asking you -- I was trying to	13:42:34
7	bring you back to your testimony that you were	13:42:37
8	talking about here, your invention in 2006.	13:42:39
9	So my question is, if we look at that	13:42:42
10	Figure 3 and the components we identified, how is	13:42:45
11	that different than what was shown in Mr. Grann's	13:42:48
12	notebook on page 11?	13:42:52
13	MS. RICHEY: Objection, form.	13:42:53
14	A This is the first I've seen of this	13:42:56
15	document, so in order to make any technical	13:42:58
16	testimony on this, I would have to have time to	13:43:02
17	study it.	13:43:05
18	Q Okay. But based on your first review, do	13:43:06
19	you see any apparent distinctions?	13:43:10
20	MS. RICHEY: Objection, form.	13:43:13
21	A I've not studied it yet.	13:43:15
22	Q Okay. Do you want to take a minute to	13:43:16

1	read the description of Figure 3 and then see if	13:43:19
2	you're able to identify any differences?	13:43:22
3	A I think it's --	13:43:25
4	MS. RICHEY: Objection, form.	13:43:26
5	A Yeah, my understanding of what my	13:43:29
6	testimony is for this prosecution, it's not to	13:43:33
7	testify on any technologies of patents. I'm not an	13:43:38
8	expert witness.	13:43:48
9	Q Yeah, I'm not asking you to give expert	13:43:49
10	testimony. I'm just asking you if -- we had talked	13:43:52
11	about sort of your invention and the figures showing	13:43:55
12	your invention, and you had provided declarations	13:43:58
13	about that.	13:44:00
14	And I was wondering if you were able to	13:44:02
15	tell me how what we saw in Figure 3 was different	13:44:04
16	than those things we discussed.	13:44:07
17	MS. RICHEY: Objection.	13:44:11
18	There's no question pending.	13:44:12
19	Q Are you able to identify any differences?	13:44:15
20	MS. RICHEY: Objection, form, and asked	13:44:21
21	and answered.	13:44:25
22	A I've answered that question already.	13:44:28

1	Q	And the answer was?	13:44:31
2	A	I have not seen this document before, and	13:44:34
3		so I would have to study it before I could tell you	13:44:37
4		whether there's any difference or not.	13:44:39
5	Q	Okay. Let's go back to the patent	13:44:43
6		itself, which is Exhibit 1001.	13:44:50
7		And if you look at page 15 of the PDF,	13:45:06
8		it's the last page, you'll see something labeled	13:45:09
9		with a bold number 1. That is claim 1.	13:45:12
10		Do you see that on the left there?	13:45:36
11	A	Yes.	13:45:42
12	Q	You had mentioned earlier that your	13:45:43
13		sketch in your notebook was sort of the first	13:45:47
14		conception of the invention of the '416.	13:45:52
15		Do you recall that?	13:45:56
16		MS. RICHEY: Objection, form.	13:45:57
17	A	Yes.	13:45:58
18	Q	So I'd like, if we could, to kind of tick	13:45:59
19		through the different pieces of the claim here, and	13:46:01
20		I'd like for you to tell me who came up with what	13:46:05
21		ideas, which parts of the claim --	13:46:09
22		MS. RICHEY: Objection --	13:46:10

1	Sorry, go ahead.	13:46:12
2	Q I'm going to ask you which parts of the	13:46:14
3	claim are yours, which parts of the claim are Eric	13:46:16
4	Grann's and which part of the claim are Brian	13:46:20
5	Peters'.	13:46:23
6	MS. RICHEY: I'm going to object to this	13:46:23
7	whole line of dissecting a patent claim for this	13:46:25
8	witness. This goes well beyond the scope what his	13:46:28
9	declaration is for. He's not a technical witness.	13:46:32
10	He's not a lawyer to interpret claim limitations.	13:46:34
11	MR. JONES: He testified about --	13:46:41
12	(Cross-talk.)	13:46:42
13	MR. JONES: He provided a declaration	13:46:42
14	about the conception, and I would like to ask him	13:46:43
15	who conceived what.	13:46:46
16	MS. RICHEY: That's not what you're	13:46:48
17	asking. You're asking him to interpret claim	13:46:49
18	limitations, and he's not a lawyer.	13:46:52
19	MR. JONES: Well, how about you -- I	13:46:56
20	think we can object after I ask the questions.	13:46:57
21	MS. RICHEY: Well, I'm just letting you	13:47:02
22	know, I'm not going to go very far down this line of	13:47:03

1	questioning, and we're going to have -- so I'm just	13:47:06
2	letting you know. So...	13:47:08
3	A I don't recall.	13:47:13
4	Q Okay. So let's go through it in detail.	13:47:15
5	So if you look at the -- there's a line	13:47:18
6	starting at 23 to 28 in this column on the left. It	13:47:21
7	states, An optical combiner useable in data	13:47:28
8	communication systems for multiplexing the output of	13:47:32
9	a plurality of n lasers.	13:47:36
10	Do you see that?	13:47:39
11	A Yes.	13:47:39
12	Q Which of you, the three inventors,	13:47:40
13	conceived that idea?	13:47:45
14	MS. RICHEY: Objection, scope, form.	13:47:46
15	A I've answered that question.	13:47:51
16	Q Please answer it again. I don't recall.	13:47:55
17	A I don't recall.	13:47:58
18	Q Okay. Well, you stated that the sketch	13:48:00
19	in your notebook showed the conception of the	13:48:06
20	invention, correct?	13:48:08
21	A Yes.	13:48:11
22	Q Okay. Did that sketch show an optical	13:48:12

1 combiner useable in data communication systems for 13:48:16
2 multiplexing the outputs of a plurality of n lasers? 13:48:20
3 MS. RICHEY: Objection, form, scope, 13:48:24
4 legal conclusion. 13:48:30
5 Q You can answer. 13:48:33
6 A You're asking about stuff that's 20 years 13:48:38
7 ago. 13:48:43
8 Q Well, let's pull up the picture, your 13:48:45
9 sketch that you referred to earlier. 13:48:49
10 If you go to Exhibit 1002 -- 13:48:51
11 A This is -- this is only trying to turn me 13:48:53
12 into a expert witness. I don't see how it has 13:48:56
13 anything to do with my disclosure. 13:49:01
14 Q So you testified about the conception of 13:49:05
15 the invention -- 13:49:07
16 A Yes. 13:49:08
17 Q -- in 2006, and I'm asking what you 13:49:09
18 conceived. 13:49:12
19 So let's look at your notebook from, I 13:49:13
20 believe, 2003. It's page 79 of Exhibit 1002. 13:49:17
21 MS. RICHEY: So you're not asking him 13:49:25
22 about what he conceived. So I'm going to object to 13:49:27

1	you instructing my witness that you're doing	13:49:31
2	something you're not. So...	13:49:32
3	Q Can you please turn to page 79 of	13:49:37
4	Exhibit 1002.	13:49:40
5	A I believe that's page 79. Okay.	13:50:11
6	Q Is this sketch shown at the bottom of	13:50:15
7	page 16 of your notebook the sketch you were	13:50:17
8	referring to earlier regarding your conception of	13:50:22
9	the invention of the '416 patent?	13:50:24
10	MS. RICHEY: Objection, form.	13:50:26
11	A Previously, we were discussing the	13:50:30
12	diagram in Eric Grann's book, notebook.	13:50:33
13	Q Okay. So let's scroll up a few pages to	13:50:39
14	page 75.	13:50:47
15	In paragraph 4 from your first	13:50:54
16	declaration --	13:50:59
17	A This is the declaration from 2004, right?	13:51:05
18	Q I don't remember the exact year. But	13:51:10
19	from the prosecution of the '416 patent, correct?	13:51:11
20	A 2006, okay.	13:51:14
21	Q So please look at paragraph 4. And why	13:51:15
22	don't you go ahead and read that to yourself.	13:51:19

1	A	Yes, I've read that.	13:51:31
2	Q	And you would agree that the sketch shown	13:51:34
3		on page 16 is what ultimately was shown in the '475	13:51:38
4		patent application that became the '416 patent,	13:51:43
5		correct?	13:51:45
6	A	Yes.	13:51:46
7		MS. RICHEY: Objection, form.	13:51:46
8	Q	Okay. So let's take a look at that	13:51:48
9		sketch, which I believe is on page 79.	13:51:51
10	A	Okay.	13:52:41
11	Q	Okay. So I would like to discuss how	13:52:41
12		this sketch from your notebook, as referred by you	13:52:46
13		in paragraph 4 of your declaration, shows the	13:52:49
14		invention of the '416 patent.	13:52:54
15		MS. RICHEY: Objection, form.	13:52:58
16	A	I've tried to describe to you what is	13:53:03
17		happening here before. So you already have that on	13:53:06
18		record.	13:53:08
19	Q	Well, we actually haven't discussed it in	13:53:09
20		the context of this figure. So why don't we do that	13:53:12
21		again.	13:53:18
22		Can you please describe for me, perhaps	13:53:18

1	left to right, what is shown in the sketch on	13:53:21
2	page 16 of your notebook.	13:53:23
3	A Comparing it to the previous one that we	13:53:26
4	discussed, this one has two lasers drawn. Instead	13:53:29
5	of a 2D array, this is a 1D array. Then the next	13:53:36
6	block over, each laser collimated separately. And	13:53:41
7	the next block, collimated lasers focused down to	13:53:45
8	fiber. And then it shows the fiber on the right	13:53:51
9	side.	13:53:56
10	Q Is there any significance to the	13:54:02
11	difference between the 1D array shown here and the	13:54:03
12	2D array shown in Eric Grann's notebook?	13:54:08
13	MS. RICHEY: Objection, form.	13:54:10
14	A One has a 1D array and the other has a 2D	13:54:16
15	array of lasers.	13:54:20
16	Q Right. Is there any technical	13:54:22
17	significance to that difference?	13:54:24
18	MS. RICHEY: Objection, form, scope.	13:54:28
19	A I don't want to put words into the mouths	13:54:34
20	of anybody.	13:54:36
21	Q In your view, is there any technical	13:54:39
22	significance to that difference?	13:54:42

1	MS. RICHEY: Same objections.	13:54:44
2	A Same comment. I'm not here to describe	13:54:47
3	the technology.	13:54:56
4	Q Are you prepared to discuss your	13:54:59
5	conception of the invention?	13:55:00
6	A Given that you're just trying to get	13:55:03
7	words out of my mouth that may or may [sic] be	13:55:07
8	misconstrued, I don't feel like I should be a	13:55:11
9	technical witness.	13:55:14
10	Q I'm asking you about your conception and	13:55:18
11	the sketch showing your conception and the sketch	13:55:22
12	shown by one of your co-inventors regarding that	13:55:25
13	conception. And I'm asking if there's any	13:55:28
14	significance to the differences between those	13:55:30
15	sketches.	13:55:32
16	MS. RICHEY: Objection, scope, and asked	13:55:34
17	and answered.	13:55:38
18	A Can you remind me of the technical	13:55:38
19	witness that you asked me about previously? What	13:55:40
20	was his name?	13:55:45
21	Q I don't know what you're asking about.	13:55:48
22	A Dr. Z or somebody like that. You brought	13:55:52

1	him up in that initial, have I ever met him.	13:55:57
2	Q Oh, Dr. Lebby.	13:56:00
3	A Lebby, okay. This is -- the questions	13:56:01
4	you're asking are for Dr. Lebby.	13:56:04
5	Q Okay. So are you unable to tell me if	13:56:08
6	there's any technical significance between your	13:56:12
7	sketch of the conception and the sketch of	13:56:15
8	Mr. Grann?	13:56:18
9	MS. RICHEY: Objection, form and scope.	13:56:19
10	A You would be asking for an opinion that	13:56:25
11	I'm not -- I am not to give testimony about. That's	13:56:27
12	not what I'm here for testimony.	13:56:32
13	Q So just so we're clear, if you can answer	13:56:35
14	my question, under the rules, you answer my question	13:56:38
15	unless you're instructed not to.	13:56:42
16	A I, as an individual, have understanding	13:56:47
17	that a technical situation can be inferred and	13:56:52
18	described in many different ways, and that you have	13:56:57
19	the ability to misconstrue any description that I	13:57:01
20	give you in any way you wish. And I don't want to	13:57:05
21	play a part of that. I don't want to be tricked.	13:57:12
22	And that's what you're doing.	13:57:14

1	So if you ask me technical opinions, I'm	13:57:15
2	not going to give them to you.	13:57:18
3	Q Okay. So are you refusing to answer my	13:57:19
4	question?	13:57:21
5	A No. I'm telling you that the question is	13:57:22
6	not in my area of concern for this deposition.	13:57:27
7	MR. JONES: Carrie, I think you need to	13:57:35
8	speak with your witness. We can do it on record or	13:57:37
9	off. But he doesn't get to decide what questions he	13:57:40
10	does or doesn't answer.	13:57:43
11	Do you want to do this on record or off?	13:57:46
12	MS. RICHEY: Well, I think you might be	13:57:48
13	able to ask a question that gets at the same thing	13:57:50
14	that you're trying to get at. I think you're asking	13:57:54
15	something along the lines of a technical	13:57:57
16	significance. I think that question is vague. And	13:58:00
17	he gave you a technical difference already on the	13:58:04
18	record.	13:58:07
19	So I just feel like -- actually, I don't	13:58:07
20	even know what you're pushing at. I actually don't	13:58:11
21	even know what you're trying to get at.	13:58:14
22	(Cross-talk.)	13:58:17

1	MS. RICHEY: (Inaudible) of the question.	13:58:17
2	MR. JONES: I thought what I was asking	13:58:19
3	was relatively innocuous.	13:58:21
4	Q So your illustration of the conception	13:58:25
5	includes a 1D array. Eric Grann's illustration of	13:58:29
6	the conception shows a 2D array.	13:58:34
7	Are you aware, as you sit here today, of	13:58:36
8	any technical significance to a 1D array versus a 2D	13:58:38
9	array?	13:58:43
10	A A 1D array has two lasers in it in this	13:58:47
11	case, and the 2D array has four lasers. That's	13:58:50
12	technically significant, right.	13:58:56
13	Q Why is that?	13:58:58
14	A Because there's two instead of four. And	13:58:59
15	so depending on what you think is significant, that	13:59:01
16	makes a difference.	13:59:05
17	Q Are these the same -- did you guys sketch	13:59:07
18	the same invention, or did you guys sketch different	13:59:10
19	inventions?	13:59:14
20	MS. RICHEY: Objection, form.	13:59:16
21	And just -- are you referring back to the	13:59:20
22	'416?	13:59:24

1	MR. JONES: I'll re-ask my question.	13:59:26
2	Q In page 16 of your inventor notebook, is	13:59:28
3	the illustration shown there the same invention	13:59:33
4	shown at page 11 of Mr. Grann's notebook?	13:59:35
5	A An invention, in my mind, is a very big	13:59:44
6	open space. So you could say, depending on what you	13:59:51
7	call an invention, in this case, his has four lasers	13:59:58
8	and mine has two.	14:00:02
9	Is that the same invention? You define	14:00:05
10	"invention."	14:00:09
11	Q Okay. I'll re-ask my question.	14:00:11
12	Please look at -- well, I'll just read it	14:00:13
13	to you.	14:00:18
14	In paragraph 4 of your declaration that	14:00:18
15	you gave during prosecution, you stated that the	14:00:20
16	concept sketched on page 16 and ultimately shown in	14:00:22
17	the '416 [sic] patent occurred to you.	14:00:27
18	So is the concept shown at page 16 of	14:00:31
19	your notebook the same concept shown on page 11 of	14:00:36
20	Eric Grann's notebook?	14:00:41
21	MS. RICHEY: Objection, form.	14:00:42
22	And can you show Exhibit -- paragraph 4	14:00:49

1	if you're going to read from it.	14:00:52
2	MR. JONES: He has full control.	14:00:54
3	Q It's on page 75 of the PDF. I think you	14:01:05
4	scrolled past it.	14:01:09
5	A This is page 75.	14:01:34
6	Q Yep, paragraph 4. You discuss recording	14:01:35
7	the concept ultimately shown in the '475 patent	14:01:39
8	application.	14:01:42
9	Do you see that?	14:01:42
10	A Yes.	14:01:42
11	MS. RICHEY: Well, it says, the concept	14:01:43
12	of providing an offset launch as sketched on	14:01:45
13	page 16.	14:01:48
14	Q And ultimately shown in the '475 patent	14:01:50
15	application.	14:01:53
16	Do you see that?	14:01:53
17	A Yes.	14:01:53
18	Q Okay. Is that concept that you sketched	14:01:55
19	on page 16 the same concept shown on page 11 of Eric	14:01:58
20	Grann's notebook?	14:02:03
21	A It would apparently be so.	14:02:13
22	Q So if we go back to the patent and	14:02:21

1	claim 1, who came up with the concept of an optical	14:02:24
2	combiner useable in data communication systems for	14:02:33
3	multiplexing the outputs of a plurality of n lasers?	14:02:36
4	MS. RICHEY: Objection, scope.	14:02:40
5	A I've said before, if you try and dissect	14:02:48
6	this patent and ask who combined -- who added what	14:02:51
7	to it, I gave you a general description in the very	14:02:53
8	beginning that -- as to what our parts were. You	14:02:57
9	could have to presume as to who combined -- who came	14:03:00
10	up with what portions of the actual claims or the	14:03:05
11	description or the preferred embodiments.	14:03:09
12	All of those are way long ago in history,	14:03:14
13	and for anybody to do anything but guess as to who	14:03:18
14	did what is only able to be found through the	14:03:21
15	documents that we've submitted and I've declared to.	14:03:27
16	Q Okay. Well, is your sketch on page 16 of	14:03:31
17	your notebook, does that show the concept of an	14:03:36
18	optical combiner useable in data communication	14:03:41
19	systems for multiplexing the outputs of a plurality	14:03:44
20	of n lasers?	14:03:48
21	MS. RICHEY: Objection, form.	14:03:49
22	A The declaration shows that that was the	14:03:51

1	same concept as in the patent.	14:03:56
2	Q Okay. So I think the answer is yes, but	14:04:04
3	I'll re-ask it.	14:04:08
4	Does your sketch on page 16 of your	14:04:09
5	notebook show an optical combiner useable in data	14:04:11
6	communication systems for multiplexing the output of	14:04:16
7	a plurality of n lasers?	14:04:18
8	MS. RICHEY: Objection, form.	14:04:20
9	A How the claims differ from a preferred	14:04:31
10	embodiment are for legal experts, patent attorneys,	14:04:36
11	which I am not.	14:04:45
12	Q It's okay if you don't know. I just need	14:04:45
13	a yes, no, or I don't know.	14:04:48
14	A I don't know. Yeah.	14:04:50
15	Q Okay. And do you know if the image in	14:04:51
16	Eric Grann's notebook on page 11 shows an optical	14:04:53
17	combiner useable in data communication systems for	14:04:56
18	multiplexing the outputs of a plurality of n lasers?	14:04:59
19	MS. RICHEY: Objection, form.	14:05:03
20	A Again, I'm an inventor, not a patent	14:05:07
21	attorney. And so the wording that you're using, I	14:05:11
22	would have to say I don't know.	14:05:13

1 Q Okay. Do you know if your sketch shows 14:05:15
2 an optical combiner? 14:05:19
3 MS. RICHEY: Objection, form, legal 14:05:23
4 conclusion. 14:05:25
5 Q You can answer. 14:05:32
6 A Yeah, I agree with her that I'm not 14:05:33
7 trying to come up with some kind of a legal 14:05:35
8 description here. 14:05:39
9 Q Yeah, again -- 14:05:41
10 MR. JONES: And Carrie, please -- I don't 14:05:43
11 believe legal conclusion is a proper objection under 14:05:44
12 the IPR rules. 14:05:47
13 Q But I'll just ask the question. It's 14:05:48
14 yes, no, or I don't know, and that's okay. So I'll 14:05:51
15 re-ask my question. 14:05:53
16 Do you know whether your -- 14:05:54
17 MS. RICHEY: And just -- Michael, sorry. 14:05:56
18 And you can't tell the witness how to answer a 14:05:58
19 question, okay. So just -- you can ask your 14:06:01
20 question, he can answer. I don't -- it's not 14:06:04
21 appropriate for you to instruct him how to answer. 14:06:07
22 MR. JONES: Okay. I just ask that you 14:06:09

1 limit the speaking objections under the IPR rules. 14:06:11

2 Q Do you know if your sketch on page 16 of 14:06:13

3 your notebook, which is addressed in paragraph 4 of 14:06:22

4 your first declaration, shows an optical combiner? 14:06:27

5 MS. RICHEY: Objection, form. 14:06:30

6 A It is an optical combiner. I don't know 14:06:37

7 if it is the optical combiner that you are referring 14:06:40

8 to in claim 1 of said patent. 14:06:43

9 Q Okay. And do you know whether the device 14:06:47

10 illustrated at page 11 of Eric Grann's notebook is 14:06:52

11 an optical combiner? 14:06:56

12 A Same answer as the first. Words are 14:06:58

13 important in legal documents, in patents, and can 14:07:03

14 take many definitions and forms. And I'm not versed 14:07:08

15 with that use of it. 14:07:13

16 MS. RICHEY: I just want to note my 14:07:19

17 objection to form from the last question. I didn't 14:07:21

18 get it in. 14:07:23

19 Q You said you're not versed with that use 14:07:25

20 of it. Use of what? 14:07:27

21 A A term on a legal document, such as 14:07:31

22 "optical combiner," if you're asking me to refer to 14:07:34

1 that, then we have to go to what the definition of 14:07:38
2 "optical combiner" is. And you have to essentially 14:07:42
3 be a patent attorney in order to be able to 14:07:45
4 understand the description such that you can use it 14:07:49
5 in a claim and refer to it. 14:07:51

6 So you have me focused on claim 1, which 14:07:56
7 the first -- the second and the third word are 14:08:01
8 "optical combiner," and you're asking me to define 14:08:05
9 these pictures, whether those are optical combiners 14:08:08
10 or not, therefore making a connection between some 14:08:11
11 early invention concept and drawing to a specific 14:08:15
12 use of the word "optical combiner" in a patent in 14:08:20
13 the claims. And therefore, it's a trick. 14:08:25

14 So unless you define it that way, my 14:08:28
15 answer is, it is a form of an optical combiner but 14:08:33
16 has nothing to do with claim 1 that I know of. 14:08:36

17 Q Do you believe that you conceived of what 14:08:47
18 is described in the '416 patent? 14:08:54

19 A Yes. 14:08:56

20 Q Okay. Do you believe that you conceived 14:08:57
21 of an optical combiner? 14:09:01

22 A Yes. 14:09:04

1	Q	Okay. Do you believe that Eric Grann	14:09:05
2		conceived of an optical combiner?	14:09:09
3	A	Yes.	14:09:10
4	Q	Why do you believe that?	14:09:11
5	A	Because the three of us were within	14:09:15
6		ten feet of each other for many months discussing	14:09:19
7		all the different ways that we could make optical	14:09:24
8		combiners and sell them to customers.	14:09:28
9	Q	Okay. And does your notebook show that	14:09:32
10		you conceived of an optical combiner?	14:09:35
11	A	Yes.	14:09:39
12	Q	Where?	14:09:40
13	A	In the picture that we referenced.	14:09:40
14	Q	Okay. And does Eric Grann's notebook	14:09:42
15		show that he conceived of an optical combiner?	14:09:44
16	A	Yes.	14:09:47
17	Q	Where?	14:09:48
18	A	In his notebook.	14:09:49
19	Q	And how do you know, when you look at it,	14:09:50
20		that that's an optical combiner?	14:09:53
21	A	I believe --	14:09:56
22		MS. RICHEY: Objection, form.	14:09:57

1	A	I believe they refer to some way of	14:10:00
2		saying anyone skilled in the art should be able to	14:10:04
3		understand it.	14:10:08
4	Q	Okay.	14:10:11
5	A	And I do know for sure that I understood	14:10:12
6		it because I signed it.	14:10:15
7		Do I still understand it? I don't know.	14:10:17
8		20 years ago? But 20 years ago, I did understand	14:10:19
9		it.	14:10:23
10		MR. JONES: I think we're kind of at that	14:10:49
11		next hour break point. Do we want to take a break	14:10:51
12		now? Or do we want to keep going? I'm fine to keep	14:10:53
13		going, but I know there's a lot of people on the	14:11:00
14		call.	14:11:02
15		THE WITNESS: It doesn't matter to me.	14:11:03
16		COURT REPORTER: I'm fine to keep going.	14:11:12
17	Q	Let's look at paragraphs 14 and 15 of	14:11:14
18		your IPR declaration. That's Exhibit 2045.	14:11:17
19	A	Paragraphs 13 and 14?	14:11:25
20	Q	14 and 15. And just once you've had a	14:11:27
21		chance to read those, let me know.	14:11:34
22	A	Okay.	14:12:09

1	Q	And you wrote and signed this recently,	14:12:09
2		right?	14:12:12
3	A	Yes.	14:12:12
4	Q	And you still agree with it?	14:12:12
5	A	Yes.	14:12:15
6		MR. JONES: Okay. Let's pull up	14:12:23
7		document O, which was previously marked as	14:12:26
8		Exhibit 2035.	14:12:29
9		A/V TECH: Please stand by.	14:12:34
10		(Previously marked Exhibit 2035 presented	14:12:34
11		to the witness.)	14:13:05
12		BY MR. JONES:	14:13:05
13	Q	I want you to have this available in case	14:13:06
14		you need to reference it when we're talking about	14:13:08
15		paragraphs 14 and 15.	14:13:10
16	A	Sure.	14:13:11
17	Q	So let's look back at paragraph 15.	14:13:11
18		In paragraph 15, you're discussing	14:13:18
19		options for housing for the '416 patent, correct?	14:13:21
20	A	Yes.	14:13:27
21	Q	What's a housing?	14:13:27
22	A	In this instance, I believe it refers to	14:13:37

1	the part that holds everything together.	14:13:45
2	Q Okay. What do you mean, the part that	14:13:58
3	holds everything together?	14:14:00
4	A So if you -- in this instance, there's	14:14:03
5	lenses that have to be held with respect to each	14:14:08
6	other. And so a housing would hold the lens in	14:14:10
7	position with respect to each other.	14:14:14
8	Q Okay. And is it correct that the	14:14:18
9	notations in Exhibit 2035 refer to options for the	14:14:27
10	housing for the '416 patent lenses?	14:14:32
11	A Yes. 36 and 37.	14:14:51
12	Q Okay. And is it correct that at least at	14:14:53
13	this time, you were considering two options for the	14:14:57
14	'416 patent housing?	14:15:01
15	A Yes.	14:15:02
16	Q Okay. What were those two options?	14:15:03
17	A So the one labeled "same as current" is	14:15:06
18	one that has a 90-degree bend in the optical path.	14:15:10
19	And the "barrel optic" is one that the -- there is	14:15:21
20	no 90-degree bend in the optical path.	14:15:29
21	Q Why did you call the first option "same	14:15:34
22	as current"?	14:15:37

1 A It used the same mechanical -- the basics 14:15:39
2 of the mechanical mold that we used to injection 14:15:44
3 mold. 14:15:48
4 Q Same as what? 14:15:49
5 A The CWDM mux that includes filters. So 14:15:52
6 it has the same basic form factor. 14:16:01
7 (Reporter interruption.) 14:16:08
8 A Can you repeat the question, please? 14:16:19
9 Q Yeah. You said, it used the basics of 14:16:20
10 the mechanical mold that we used to injection mold. 14:16:22
11 So I asked, same as what? 14:16:26
12 A The previous CWDM device that was on sale 14:16:28
13 at that time. 14:16:31
14 Q Okay. So the '416 patent could use 14:16:34
15 the -- basically the old housing? 14:16:36
16 MS. RICHEY: Objection, form. 14:16:40
17 A Is that a question? 14:16:51
18 Q Correct. Is it correct that what 14:16:52
19 you're -- 14:16:58
20 A Yeah, the "same as current" would be the 14:16:58
21 current was the previous version of the CWDM mux. 14:17:01
22 Q So how is it that a new combiner could 14:17:10

1 use an old housing? 14:17:13

2 MS. RICHEY: Objection, form. 14:17:18

3 A It used the same basic -- it used parts 14:17:23

4 of the same injection mold. So the barrel location, 14:17:27

5 the pin points for connection to the circuit board, 14:17:34

6 were common. The 90-degree angle between the VCSEL 14:17:38

7 lasers and the lens and ferrule were the same. And 14:17:46

8 that's why it uses the word "same as current." 14:17:52

9 MR. JONES: Can we pull up document N, 14:18:00

10 which we can mark as Ray-1. 14:18:04

11 A/V TECH: Stand by. 14:18:14

12 (Reporter interruption.) 14:18:50

13 THE WITNESS: VCSEL, V-C-S-E-L. 14:18:53

14 MR. JONES: So it will be document N, 14:18:57

15 which we can mark as Ray-1. 14:18:58

16 (Exhibit Ray-1 marked for identification 14:18:58

17 and attached to the transcript.) 14:19:01

18 BY MR. JONES: 14:19:01

19 Q If we can go back to your declaration at 14:19:01

20 paragraph 15 that we were looking at before, which I 14:19:04

21 think is 2045. 14:19:09

22 And you state here that the notation 14:19:11

1	"same as current," cell 36B, refers to the	14:19:14
2	mechanical design previously developed for a	14:19:19
3	construction used in U.S. Patent No. 6,396,978.	14:19:22
4	Do you see that?	14:19:29
5	A Yes.	14:19:30
6	Q And is that the patent shown now marked	14:19:30
7	as Ray-1?	14:19:35
8	A Yes.	14:19:39
9	Q And can you show me where this patent	14:19:40
10	illustrates that housing you're referring to?	14:19:43
11	A So this is the ferrule for the incoming	14:19:47
12	fiber that I mentioned and --	14:19:53
13	Q So sorry, just to interrupt. We won't	14:19:56
14	have for the record, when you say "this," it's hard	14:19:58
15	to know. So we can either annotate, or you can	14:20:01
16	refer to them sort of by number.	14:20:05
17	A Number 80 is the internal, and number 83	14:20:06
18	is the external of said ferrule.	14:20:09
19	Q Let me re-ask my question since that's a	14:20:11
20	little bit messy with our exchange.	14:20:15
21	Can you please show me where this patent	14:20:17
22	illustrates the housing you were referring to.	14:20:19

1 A So the image on the front page of this 14:20:22
2 patent shows a cross-section view of a coarse 14:20:25
3 wavelength division multiplex device that has eight 14:20:33
4 wavelengths, and in a linear array, the incoming 14:20:38
5 laser fiber would exist on axis 90 of this diagram. 14:20:49

6 And item 80 and 83 show the inner and 14:20:56
7 outer walls of the ferrule that I've described 14:21:02
8 earlier in the system. 14:21:04

9 96a and 96h show representations of the 14:21:09
10 laser beam as it comes through the device and 14:21:23
11 projects down onto either detectors or lasers. In 14:21:27
12 our case, it would be lasers. But you can see that 14:21:33
13 the beam for 96a and 96h are perpendicular to 90. 14:21:36
14 That's the 90-degree bend that I referred to. 14:21:42

15 And that is -- there's also pins, which 14:21:46
16 are not labeled on this, but they're very close to 14:21:48
17 96a and 96h. And those pins I also referred to in 14:21:52
18 said housing. 14:21:57

19 Q Okay. And how would this housing be used 14:22:01
20 with your invention from the '416 patent? 14:22:04

21 MS. RICHEY: Objection, form. 14:22:07

22 A The basics that we intended to keep, I'm 14:22:10

1 surmising here, would be the pin points for 14:22:17
2 connection to the housing, the ferrule, said item 80 14:22:20
3 and 83, and the 90-degree orientation of the lasers 14:22:25
4 and the beam as described here. 14:22:33
5 Q So then what components would be 14:22:38
6 different between this and your invention? 14:22:40
7 MS. RICHEY: Objection, vague -- or 14:22:42
8 sorry -- form. 14:22:47
9 A So the lenses, as represented by 70 here, 14:22:50
10 are different. There are no filters, which are 14:22:54
11 represented by the number 40. There's no reflector 14:22:57
12 block, as represented by number 20. And the 14:23:02
13 reflector as shown by 66 is inverted. 14:23:09
14 Q Okay. Would it be fair to say that 14:23:18
15 basically you're replacing the filters in this 14:23:21
16 patent with the lenses of your invention? 14:23:46
17 MS. RICHEY: Objection, form and scope. 14:23:49
18 A Yeah, I don't think I'm capable of 14:23:59
19 describing optical systems to you. 14:24:03
20 Q Sure, sure. You had stated in your 14:24:12
21 declaration at paragraph 15 that you could use 14:24:17
22 this -- you could use this mechanical design for 14:24:25

1	your invention, right?	14:24:27
2	A Yes.	14:24:29
3	MS. RICHEY: Objection, form.	14:24:29
4	Q And I'm trying to understand. What does	14:24:33
5	that mean? What does it mean to use this design for	14:24:34
6	your invention?	14:24:37
7	A I've answered that question.	14:24:38
8	Q And so is the way in which you use this	14:24:42
9	design for your invention to swap the filter-based	14:24:45
10	optical components for lens-based optical	14:24:49
11	components?	14:24:52
12	MS. RICHEY: Objection, form, scope.	14:24:52
13	A Yeah, that's not the words I used. I	14:24:56
14	believe that the description was is that you could	14:25:01
15	do this without those components, not swap them.	14:25:03
16	Q Okay. So maybe you can explain --	14:25:08
17	explain what it means to do them without them.	14:25:14
18	MS. RICHEY: Objection, form, scope.	14:25:21
19	Q I'll re-ask the question.	14:25:28
20	So you stated that, I believe the	14:25:29
21	description was in that you could do this without	14:25:31
22	those components, not swap them.	14:25:33

1	So I'm asking, when you say, do this	14:25:35
2	without those components, what do you mean?	14:25:37
3	MS. RICHEY: Objection, form, scope.	14:25:42
4	A I believe that was described in our	14:25:45
5	patent application.	14:25:47
6	Q Okay. So as you sit here today, you	14:25:52
7	don't -- I'm asking -- so you don't know what is	14:25:55
8	meant by that?	14:25:56
9	A I know that we put a lot of effort back	14:25:59
10	in 2004 in order to precisely describe that for the	14:26:01
11	patent agents, and that anything that I say now	14:26:06
12	could be misconstrued.	14:26:10
13	Q Sure. So let's go back to your current	14:26:12
14	declaration from the IPR. And in paragraph 15, you	14:26:16
15	say that using a pre-existing mechanical design	14:26:20
16	would have been cost-effective because we already	14:26:23
17	owned the mold machine to create the necessary	14:26:27
18	housing for the optical components.	14:26:29
19	A Yes.	14:26:30
20	Q So I'm asking for you to explain what it	14:26:31
21	means to use a pre-existing mechanical design.	14:26:33
22	A And I believe I just described that.	14:26:40

1 Q Right. And the way I understood that 14:26:44
2 description was that you would use the same basic 14:26:45
3 housing and arrangement, but instead of using the 14:26:50
4 filters, you were using lens optics. And I asked if 14:26:53
5 that was correct. 14:26:56

6 MS. RICHEY: Objection, form, scope. 14:26:57
7 And there's no question pending. 14:27:00

8 Q Is my understanding correct? 14:27:02

9 A I answered that already, and that is that 14:27:05
10 it's not a -- there was a wording that you got 14:27:09
11 incorrect. If you'd like to re-read my answer, I 14:27:16
12 could say yes or no to it, whether that's correct. 14:27:20

13 Q I don't have that. But what I'm asking 14:27:26
14 you is if my understanding is correct or not. 14:27:31

15 And is my understanding correct that your 14:27:33
16 invention uses the same basic housing as the 14:27:36
17 previous design, however, instead of using 14:27:40
18 filter-based optical components, your invention uses 14:27:45
19 lens-based optical components? 14:27:47

20 Is that correct? 14:27:49

21 MS. RICHEY: Objection, form. 14:27:50

22 A The implementation of the concept to 14:28:02

1 possible designs is carefully worded in the patent 14:28:10
2 application. And so for me to speculate different 14:28:13
3 ways of doing that is essentially either technical 14:28:17
4 expertise or trying to redefine what the design is. 14:28:24

5 And so I've given you my interpretation 14:28:30
6 of it. If I use your words instead of my words, you 14:28:32
7 might be putting words into my mouth that I didn't 14:28:36
8 say. 14:28:38

9 I tried to say that -- you said 14:28:40
10 "replace," and I said "exclude." 14:28:45

11 And so you seem to have forgotten that or 14:28:48
12 are re-asking the question such that I eventually 14:28:52
13 allow the word "replace," and I don't know why. 14:28:55

14 Q I didn't intend to forget about -- 14:28:58

15 So you used the same housing, but you 14:29:03
16 exclude the filter-based optical components, 14:29:06
17 correct? 14:29:10

18 A Yes. 14:29:10

19 MS. RICHEY: Objection, form. 14:29:11

20 Q And since you've excluded the 14:29:16
21 filter-based optical components in your invention, 14:29:19
22 what handles the optical functionality? 14:29:22

1	MS. RICHEY: Objection, form.	14:29:29
2	A I believe that the invention is well	14:29:35
3	described in our patent application and further	14:29:43
4	described in the final patent and is recognizable by	14:29:47
5	you.	14:29:51
6	And so my reconstruction of that after	14:29:52
7	20 years is not proper testimony.	14:29:58
8	Q Okay. I want to focus on your IPR	14:30:12
9	declaration, paragraph 15, and your statement	14:30:15
10	regarding using a pre-existing mechanical design.	14:30:17
11	A Yes.	14:30:19
12	Q What does it mean to use the pre-existing	14:30:20
13	mechanical design?	14:30:25
14	A As I've said before, there are two	14:30:30
15	configurations listed in, I believe, Ray-1004, the	14:30:33
16	Excel spreadsheet, that -- it's 2035 -- that shows a	14:30:39
17	same as current or barrel optic.	14:30:44
18	The same as current would be to use the	14:30:48
19	basics of what are shown in Ray-01, namely, the	14:30:53
20	ferrule with ID number 80, OD83, the optical path	14:31:01
21	that comes in as number 90 and goes out at 96a	14:31:08
22	through 96h, and the pins on both sides of that.	14:31:11

1 That would refer to what is the current 14:31:15
2 mechanical configuration. 14:31:19
3 A barrel lens we have not discussed yet, 14:31:21
4 but it is -- essentially, I did say before, it does 14:31:24
5 not have the 90-degree bend, which in this picture 14:31:29
6 on Ray-01 is 66, but it's inverted. 14:31:33
7 That's the difference between those two 14:31:39
8 pieces. 14:31:42
9 So we could use what's existing, which is 14:31:42
10 shown in Ray-01 modified, or we could use a new 14:31:46
11 configuration of a barrel lens. And that goes back 14:31:54
12 to the Ray-2040 -- Ray -- which one -- the Excel 14:31:56
13 spreadsheet, 2035. 14:32:03
14 Q And so you said that you could use what's 14:32:12
15 existing, which is shown in Ray-1, modified. 14:32:14
16 A Yes. 14:32:20
17 Q What are the modifications? 14:32:20
18 MS. RICHEY: Objection, form. 14:32:24
19 A I believe somewhere in here, you've seen 14:32:29
20 in my declaration, there's a picture that shows the 14:32:31
21 cross-section of the devices that we had designed at 14:32:35
22 that time. So you can physically see them. 14:32:42

1 Q I'm not sure we have that, so maybe you 14:33:00
2 can -- are you able to sort of describe it? I'll 14:33:01
3 re-ask my question. 14:33:07
4 You said that we could use what's 14:33:08
5 existing, which is shown in Ray-1, modified. 14:33:11
6 And my question is, what are the 14:33:15
7 modifications? 14:33:19
8 A So I'm showing Ray-1002, page 80, and a 14:33:26
9 figure which is dated 7/18 by -- 7/18/03 by Eric, 14:33:32
10 myself, and Brian Peters. And listed as Exhibit A, 14:33:39
11 there's a notation on that. 14:33:49
12 And above that action it says, Any offset 14:33:51
13 in lasers will be translated into offset on fiber 14:34:05
14 and will have angular content as well. Both should 14:34:07
15 help improve bandwidth of fiber. Could also be used 14:34:12
16 forever single mode fiber without offset. 14:34:16
17 And it shows an opening for prism, and it 14:34:20
18 shows lens 2. And it has a label, it says, 4 each 14:34:25
19 lens 1. 14:34:32
20 And that would be a sufficient 14:34:38
21 modification to the device listed in the patent. 14:34:39
22 And that should answer your question. 14:34:46

1	Q	Right. And when say, that would be a	14:34:50
2		sufficient modification, what are you referring to?	14:34:53
3	A	The modifications depicted in this image.	14:34:56
4	Q	Right. And what are those modifications,	14:35:01
5		in words?	14:35:04
6	A	I believe that was item 60, the 90-degree	14:35:05
7		angle is inverted in this case. And the various	14:35:10
8		lenses are put into a section that is below item 60.	14:35:15
9	Q	And when you say, item 60, do you mean --	14:35:31
10	A	Likely lens 2 would also be modified.	14:35:35
11	Q	And when you say, item 60, are you	14:35:38
12		referring to item 60 in the previous Grann patent?	14:35:40
13	A	Yes.	14:35:44
14	Q	Okay.	14:35:45
15	A	Sorry, it's 66.	14:35:51
16	MR. JONES:	Okay. Let's look at --	14:35:53
17		please pull up document L, which was previously	14:36:05
18		marked in the IPR as Exhibit 1015.	14:36:08
19	A/V TECH:	Please stand by.	14:36:17
20	MR. JONES:	And for the record, this was	14:36:19
21		the Bhandarkar provisional application.	14:36:22
22		(Previously marked Exhibit 1015 presented	14:36:22

1	to the witness.)	14:36:21
2	BY MR. JONES:	14:36:21
3	Q Let's look at page 3 of the PDF. You may	14:36:31
4	want to zoom out so we can see it.	14:36:44
5	Take a moment to look at this, and then	14:36:52
6	we can talk about it.	14:36:56
7	A Okay.	14:37:04
8	Q This is -- is this -- what's shown here?	14:37:04
9	MS. RICHEY: Objection, form, scope.	14:37:09
10	A It says, Aduro LX4 Mux - Schematic.	14:37:16
11	Q And were you familiar with the Aduro LX4	14:37:21
12	mux?	14:37:26
13	A It's essentially what we were looking at	14:37:26
14	in the patent, in the patent labeled Ray-01.	14:37:28
15	Q What does LX4 mean?	14:37:38
16	A It stood for long wavelength times four,	14:37:45
17	long wavelength times four, for transceiver. So in	14:37:53
18	the 1300 nanometer range rather than the 850 range,	14:37:58
19	which would have been short wavelength. So it would	14:38:03
20	have been SX4 for the lower numbers.	14:38:06
21	Q And so this was a product that Aduro was	14:38:12
22	selling before your invention?	14:38:16

1	A	Yes.	14:38:19
2		MS. RICHEY: Objection, scope.	14:38:20
3	Q	Were there other products like this on	14:38:24
4		the market; do you know?	14:38:26
5		MS. RICHEY: Objection, scope, form.	14:38:28
6	A	Yes.	14:38:40
7	Q	Did they use sort of this same form	14:38:40
8		factor?	14:38:42
9		MS. RICHEY: Objection, scope, form.	14:38:43
10	A	It's an open-ended type of a question.	14:38:49
11		It all depends on how close of a form you want. If	14:38:54
12		there were devices out there that had multiple	14:38:57
13		wavelengths and had a ferrule on one end, yes, they	14:38:59
14		were.	14:39:04
15	Q	Did they have this kind of connector?	14:39:04
16	A	This type of a ferrule would be standard,	14:39:12
17		yes.	14:39:14
18	Q	Okay. So the -- so other people in the	14:39:15
19		field besides Aduro had products with the type of	14:39:25
20		connectors shown here on page 3 of Exhibit 1015?	14:39:29
21		MS. RICHEY: Objection, scope, form.	14:39:32
22	Q	You can answer.	14:39:37

1	A	I already have.	14:39:38
2	Q	So the answer is yes?	14:39:41
3	A	Yes. Those ferrules are common.	14:39:43
4	Q	Okay. I'd like to go back to your IPR	14:39:46
5		declaration, Exhibit 2045.	14:39:57
6		So if we scroll down to the bottom of	14:40:11
7		paragraph 15, in the final two sentences, you state,	14:40:15
8		By contrast, barrel optic (37B) refers to a	14:40:25
9		mechanical design option that would have required	14:40:29
10		purchasing a new and cost-prohibitive mold machine.	14:40:33
11		A barrel optic is seen in Figures 5 and 6 of the	14:40:40
12		'416 patent as one embodiment of the invention.	14:40:45
13		Do you see that?	14:40:51
14	A	Yes.	14:40:51
15	Q	So if we look at Figures 5 and 6 of the	14:40:52
16		patent, which is Exhibit 1001, are those the barrel	14:41:00
17		optics you were referring to?	14:41:25
18	A	Yes.	14:41:26
19	Q	You state in your declaration that they	14:41:26
20		are in contrast to.	14:41:29
21		Which of the figures in the patent are	14:41:31
22		they in contrast with?	14:41:33

1 A This one that we've been referring to. 14:41:36
2 It would be Figure 4. 14:41:39
3 Q Any other figures that you would say are 14:41:41
4 in contrast with the designs of 5 and 6? 14:41:44
5 A Figure 3, Figure 2, Figure 1, Figure 7. 14:41:48
6 Although that's not in referring to contrast in that 14:42:02
7 statement. Figure 7 and Figure 8 and Figure 9 and 14:42:06
8 Figure 10 and Figure 11 are not referred to in that 14:42:15
9 same comparison. 14:42:21
10 Q Why aren't those referred to in the 14:42:24
11 comparison? 14:42:26
12 A I don't know. 14:42:30
13 Q So are what's shown in Figures 7 through 14:42:31
14 11 barrel optics? 14:42:44
15 MS. RICHEY: Objection, form. 14:42:51
16 A I would have to read through the 14:42:54
17 description of the embodiments as to see whether 14:42:56
18 those figures have anything to do with Figure 6 or 5 14:42:58
19 or 4 through 1. 14:43:03
20 Q Okay. Can you tell by looking at them 14:43:06
21 their relation to any of the other figures? 14:43:09
22 A I would just be speculating. 14:43:16

1	Q	Do these arrangements in Figures 7	14:43:26
2		through 11, do they work with the old housing	14:43:29
3		design?	14:43:32
4		MS. RICHEY: Objection, form.	14:43:33
5	A	Could or could not. All depends on how	14:43:42
6		much you think about it and what the descriptions	14:43:47
7		are for it. You could imagine, if I look at	14:43:52
8		Figure 10, that you might be able to -- you could	14:43:58
9		put a 90-degree bend in the ray tracing that they	14:44:00
10		are showing, and it could work in the first	14:44:08
11		configuration. If you didn't have the 90-degree, it	14:44:12
12		could work in the second configuration.	14:44:15
13		My comment was, you brought me here to	14:44:17
14		say, in opposition to our -- in comparison to, or	14:44:20
15		some word that was equivalent, the barrel optic	14:44:25
16		versus something else. The something else is 1	14:44:29
17		through 5. The barrel optic is 6 through 7. The	14:44:32
18		rest of these are inconsequential to the original	14:44:35
19		question.	14:44:38
20	Q	I think the barrel optic is 5 through 6,	14:44:38
21		and the original is 1 through 4, just for clarity of	14:44:42
22		the record.	14:44:45

1	A	Thank you.	14:44:45
2	Q	So you're saying you could use either	14:44:51
3		housing for what's shown in Figures 7 through 11?	14:44:54
4	A	It's possible. That wasn't the original	14:44:57
5		question as to where we got here.	14:44:59
6	Q	Okay. And is it possible that they could	14:45:00
7		use some other housing entirely?	14:45:04
8	A	Absolutely.	14:45:08
9		MS. RICHEY: Objection, scope. Or sorry,	14:45:08
10		form. And probably scope, but...	14:45:11
11	Q	Sorry. I couldn't hear you over the	14:45:17
12		objection.	14:45:19
13		MS. RICHEY: I said scope and form.	14:45:20
14		MR. JONES: No, the witness's answer. I	14:45:23
15		think he said "absolutely," but I couldn't hear.	14:45:26
16	A	Yeah, if you're asking me whether	14:45:29
17		different ideas can be put into different housings,	14:45:33
18		yes.	14:45:37
19	Q	I'll re-ask my question.	14:45:42
20		Okay. And it is possible they could use	14:45:43
21		some other housing entirely, correct?	14:45:47
22	A	Yes.	14:45:49

1	Q	I'd like to shift topics for a moment.	14:46:01
2		Are you familiar with the company	14:46:03
3		Opticis?	14:46:05
4	A	Only in regards to this discussion.	14:46:07
5	Q	Are you familiar with their products?	14:46:14
6	A	Only within what I've seen from this	14:46:17
7		discussion.	14:46:20
8	Q	Okay. And what have you seen regarding	14:46:22
9		Opticis's products?	14:46:24
10		MS. RICHEY: I just want to caution the	14:46:25
11		witness not to disclose the substance of any	14:46:27
12		attorney-client privileged communications.	14:46:29
13		To the extent that you can provide an	14:46:33
14		answer without doing that, you may.	14:46:35
15	A	Yeah, I've only seen it from where I	14:46:38
16		can't disclose.	14:46:42
17	Q	Are you familiar with any Opticis	14:46:44
18		employees?	14:46:47
19	A	No.	14:46:47
20	Q	Have you ever worked with the company	14:46:49
21		Opticis in any of your positions?	14:46:51
22	A	Not that I recall.	14:46:54

1	Q	And have you ever met an Opticis	14:46:57
2		employee?	14:47:00
3	A	Not that I recall.	14:47:00
4	Q	And aside from your work with counsel,	14:47:04
5		have you ever seen an Opticis product?	14:47:06
6	A	No.	14:47:08
7		MR. JONES: Let's go off the record and	14:47:14
8		take a break.	14:47:15
9		VIDEOGRAPHER: We are going off the	14:47:15
10		record at 2:47.	14:47:17
11		(Recess from 2:47 p.m. until 3:02 p.m.)	14:56:40
12		VIDEOGRAPHER: We are back on the record	15:02:48
13		at 3:02.	15:02:57
14		BY MR. JONES:	15:03:00
15	Q	Welcome back, Mr. Ray.	15:03:01
16	A	Yes, hello.	15:03:03
17	Q	You understand that you're still under	15:03:04
18		oath?	15:03:05
19	A	Yes.	15:03:06
20	Q	During our breaks today, did you speak	15:03:06
21		with anyone regarding this case?	15:03:08
22	A	My son.	15:03:10

1	Q	Okay. And what did you and your son	15:03:13
2		discuss regarding the case?	15:03:15
3	A	That we were hoping to finish early so I	15:03:18
4		could have lunch soon.	15:03:21
5	Q	Did you speak with anyone else regarding	15:03:24
6		your deposition?	15:03:27
7	A	No.	15:03:28
8	Q	Including counsel?	15:03:29
9	A	No.	15:03:30
10		MR. JONES: No more questions for me.	15:03:33
11		THE WITNESS: That's the end?	15:03:40
12		MS. RICHEY: I'll have a couple of	15:03:41
13		redirect questions.	15:03:43
14		EXAMINATION	15:03:46
15		BY MS. RICHEY:	15:03:46
16	Q	Mr. Ray, can you pull up -- do you still	15:03:48
17		have access to the documents?	15:03:50
18	A	No.	15:03:51
19		A/V TECH: I can bring them up. Counsel,	15:03:52
20		I can bring up the documents that were brought up	15:04:08
21		earlier.	15:04:10
22		MS. RICHEY: Thank you. Please do.	15:04:11

1	A	Okay. I have control again.	15:04:22
2	Q	Can you go to page 75 of Exhibit 1002,	15:04:24
3		which is the prosecution history.	15:04:39
4	A	Page 70-something?	15:04:50
5	Q	That one is 1001. It's 1002.	15:04:52
6	A	Okay.	15:04:57
7	Q	That one, yeah. Page 75.	15:04:58
8		Okay. Can you look at paragraph 5,	15:05:14
9		please, and read through that.	15:05:20
10	A	As shown on pages 17 and 18 (the page	15:05:23
11		number from page 18 being covered by the images	15:05:27
12		placed on page 18), I performed initial computer	15:05:29
13		modeling of the concept. The information on	15:05:33
14		pages 17 and 18 was generated by me on July 17, 2003	15:05:36
15		and the subject matter of those pages were read and	15:05:41
16		understood by Eric Grann and Brian Peters; they both	15:05:44
17		signed and dated pages 17 and 18 in my presence on	15:05:48
18		July 18, 2003. The computer generated	15:05:51
19		three-dimensional models shown on page 18 were	15:05:57
20		generated on July 17, 2003 and are essentially the	15:05:59
21		same images that were carried forward into the '475	15:06:04
22		patent application which was filed in early 2004;	15:06:09

1 those images all illustrate the optical combiner 15:06:12
2 with offset launch. 15:06:16
3 Q Okay. And is that paragraph accurate? 15:06:18
4 A Yes. 15:06:23
5 Q And specifically, is the last phrase, 15:06:24
6 those images all illustrate the optical combiner 15:06:28
7 with offset launch, accurate? 15:06:32
8 A Yes. 15:06:36
9 Q Do you recall if Mr. Jones asked you any 15:06:38
10 questions regarding paragraph 5 of your declaration? 15:06:42
11 A Yes. I don't know if it was directly on 15:06:48
12 paragraph 5, but on those images. 15:06:51
13 Q Okay. 15:06:54
14 A Yes. 15:06:55
15 Q And according to paragraph 5, the images 15:06:56
16 were created on July 17, 2003. 15:07:05
17 Is that your -- do you agree with that -- 15:07:11
18 is that statement accurate and true? 15:07:15
19 A Yes. 15:07:17
20 Q And is it -- on paragraph 4, your 15:07:19
21 declaration states that on July 17th, you had a 15:07:24
22 meeting with Eric Grann and Brian Peters. 15:07:27

1	Is that an accurate statement?	15:07:33
2	A Yes.	15:07:37
3	Q And at paragraph 6 of your declaration,	15:07:43
4	you state that, Between the date of concept,	15:07:47
5	approximately July 17, 2003...	15:07:50
6	What date of concept is paragraph 6	15:07:59
7	referring to?	15:08:04
8	MR. JONES: Objection, form. Objection,	15:08:05
9	leading.	15:08:07
10	A Carrie, do you care to rephrase that?	15:08:14
11	Q Sure. Paragraph 6 says, the date of	15:08:18
12	concept. So I'm asking, what is that referring to	15:08:26
13	in the declaration?	15:08:32
14	MR. JONES: Same objections.	15:08:34
15	A That would be the July 17th date as	15:08:36
16	referred to in paragraph 4 and 5.	15:08:39
17	Q Okay. And can you turn to pages -- those	15:08:43
18	pages 17 and 18 that we just referred to in	15:08:52
19	paragraphs 4 and 5 of your declaration.	15:08:55
20	A Is that in this document?	15:09:04
21	Q Yeah. It's still in the same document	15:09:06
22	but later on.	15:09:08

1	A	This one, maybe?	15:09:15
2	Q	Yeah. Okay. So that is showing page 17.	15:09:16
3		Can you scroll to the next page, please.	15:09:21
4		Can you explain -- what is being shown on	15:09:32
5		the screen on page 18 of your inventor notebook?	15:09:37
6		MR. JONES: So the record is clear, this	15:09:41
7		is page 17 currently shown on the screen.	15:09:43
8	A	So this is the modified current design	15:09:47
9		showing the -- how the optical combiner could fit	15:09:58
10		into this configuration with a ferrule for receiving	15:10:02
11		the optical fiber and a -- four legs which would	15:10:09
12		receive the board, the circuit board that includes	15:10:15
13		the lasers, and how a 90-degree reflector would	15:10:20
14		allow the optical path to have changed 90 degrees.	15:10:28
15	Q	Okay. And can you go to page 18 of your	15:10:37
16		inventor notebook.	15:10:52
17		Can you describe what's being shown on	15:10:54
18		page 18 of the inventor notebook?	15:10:56
19	A	Is this 18?	15:10:58
20		MR. JONES: Yes.	15:11:00
21	A	So this is --	15:11:03
22		MR. JONES: Yes.	15:11:05

1 A This is the same that's shown on the 15:11:06
2 previous diagrams, but in 3D model form from Pro/E. 15:11:09
3 So you're looking at sort of an isometric type of a 15:11:15
4 view, or a 3D model. 15:11:26
5 Q Okay. And what is this a 3D model of? 15:11:32
6 A The same optical combiner as the 15:11:35
7 invention. 15:11:39
8 Q And if you go back to paragraph 5 of your 15:11:50
9 declaration that we were just looking at, page 75. 15:11:54
10 In reviewing your inventor notebook, can 15:12:11
11 you -- what pages of your inventor notebook 15:12:17
12 represent the invention that are part of the '416 15:12:21
13 patent? 15:12:29
14 A All three pages. 15:12:29
15 Q And what page numbers were those? 15:12:30
16 A It would have been 16, 17, and 18. 15:12:38
17 Q Okay. Thank you. 15:12:43
18 Did Mr. Jones ask you any questions 15:12:44
19 regarding page 18 of your -- sorry. 15:12:48
20 Did Mr. Jones ask any questions relating 15:12:53
21 to page 18 of your inventor notebook in relation to 15:12:57
22 conceiving the invention of the '416? 15:13:05

1	A	I believe this is the first we've talked	15:13:09
2		about page 18.	15:13:11
3	Q	Yeah, that one.	15:13:14
4	A	Yeah. This is the first we've talked of	15:13:16
5		it. He asked me no questions of this one.	15:13:19
6	Q	And did he ask you any questions about	15:13:22
7		page 17 of your inventor notebook?	15:13:25
8	A	Yes.	15:13:28
9	Q	Okay.	15:13:29
10	A	Either he asked me about it or I brought	15:13:36
11		it up in trying to describe the optical system, the	15:13:38
12		differences. The differences is why I was bringing	15:13:47
13		this up.	15:13:50
14	Q	Okay.	15:13:51
15	A	But I fail to recall whether he asked me	15:13:54
16		about it or whether I referred to it.	15:13:57
17	Q	Okay. Do you feel like Mr. Jones tried	15:13:58
18		to put words in your mouth during this deposition?	15:14:04
19	A	Yes.	15:14:06
20		MR. JONES: Objection, form.	15:14:06
21	A	Yes.	15:14:09
22	Q	And do you feel like Mr. Jones was trying	15:14:11

1 to trick you throughout this deposition in the way 15:14:13
2 he asked you question? 15:14:16
3 MR. JONES: Objection, form. 15:14:17
4 And Carrie, this is inappropriate. 15:14:18
5 A I certainly felt that way. The 15:14:21
6 descriptions -- I felt like I had to give the 15:14:24
7 descriptions over and over again until I used the 15:14:27
8 terminology that he was looking for. 15:14:31
9 MS. RICHEY: I have no further questions. 15:14:36
10 MR. JONES: Just a couple follow-ups. 15:14:41
11 EXAMINATION 15:14:44
12 BY MR. JONES: 15:14:44
13 Q Counsel brought you to pages 17 and 18 of 15:14:45
14 your notebook, right? 15:14:49
15 A Did you want me to -- this is page 17. 15:14:51
16 Q So I'll repeat the question. 15:14:55
17 Counsel -- is it correct that counsel 15:14:56
18 brought you to pages 17 and 18 of your notebook? 15:14:58
19 A Yes. 15:15:01
20 Q And when discussing pages 17 and 18 of 15:15:01
21 your notebook, is it correct that you referred to it 15:15:05
22 as a modified current design? 15:15:07

1 MS. RICHEY: Objection, form. And that's 15:15:11
2 beyond the scope of what I asked. 15:15:17
3 A So I believe I used page 17 specifically 15:15:21
4 as an example of the modified current design. 15:15:25
5 Q And when you said that in response to 15:15:29
6 questions from counsel, what did you mean by 15:15:31
7 "modified current design"? 15:15:33
8 A We've went through that previously, and 15:15:36
9 either you asked me to come to this page or I 15:15:41
10 brought this page up as an example of what needed to 15:15:43
11 be modified on the current design. 15:15:48
12 Q Right. Modified relative to what? 15:15:52
13 A To the device that was previously selling 15:15:56
14 with filters and was illustrated in the patent that 15:16:03
15 was brought up earlier. I think it's Ray-01, yes. 15:16:14
16 Q And counsel also asked you if the images 15:16:34
17 shown here on page 16, 17, and 18 show your 15:16:37
18 invention. 15:16:41
19 Do you recall that? 15:16:41
20 MS. RICHEY: Objection, form. 15:16:43
21 A Could you repeat the question, please? 15:16:45
22 Q Yeah. Counsel asked if the images shown 15:16:47

1	here on pages 16, 17, and 18 show your invention.	15:16:49
2	Do you recall that?	15:16:53
3	MS. RICHEY: Objection, form.	15:16:54
4	A I suppose she asked me that, yes.	15:16:58
5	Q Okay. And in particular, pages 17 and	15:17:01
6	18, they show a housing for your invention, correct?	15:17:04
7	MS. RICHEY: Objection, form.	15:17:08
8	A Yeah, I don't like the way the question	15:17:11
9	is worded again as to what a housing is or isn't.	15:17:15
10	It shows the invention.	15:17:20
11	Q Okay. Does -- do pages 17 and 18 show a	15:17:24
12	housing for your invention?	15:17:27
13	MS. RICHEY: Objection, form.	15:17:29
14	A I don't know how the word "housing" was	15:17:34
15	used back then. So anything about that would just	15:17:38
16	be -- I would just be guessing.	15:17:40
17	Q So in paragraph 15 of your declaration,	15:17:47
18	Exhibit 2045, you state that there were ideas for a	15:17:50
19	potential, quote, mechanical housing. That was your	15:17:55
20	IPR declaration from April, Exhibit 2045. I'm using	15:18:00
21	"housing" in the same way you did.	15:18:03
22	MS. RICHEY: I'm going to object to this.	15:18:05

1 Can you please tie this back to what was 15:18:07
2 within the scope of my redirect? Because I'm not 15:18:10
3 seeing it. 15:18:13

4 MR. JONES: I believe it is. But you can 15:18:14
5 have a standing objection. 15:18:16

6 Q So I was using "housing" because it's the 15:18:20
7 word that you used. 15:18:24

8 MS. RICHEY: Well, you can't just take a 15:18:26
9 word that I used in a question and then spin off any 15:18:28
10 sort of question about the word "housing." That's 15:18:30
11 not the way redirect -- or recross works. 15:18:32

12 MR. JONES: I was talking to Mr. Ray. 15:18:35

13 Q So Mr. Ray, I used the word "housing" 15:18:37
14 because it's the word that you had used in your IPR 15:18:39
15 declaration. So when I use the word "housing," I'm 15:18:44
16 using it in the same way that you were. 15:18:47

17 A So we were looking at the spreadsheet or 15:18:49
18 to-do list, I believe, and it refers to ideas for a 15:18:59
19 potential housing unit for multiplexing invention. 15:19:04
20 And "same as current" versus the "barrel optic." 15:19:08

21 Q Correct. So if we look at pages 17 and 15:19:14
22 18 of your notebook that you were just discussing 15:19:17

1 with counsel in Exhibit 1002 -- 15:19:19

2 A Those were -- those were likely 15:19:26

3 follow-ups of possible same as current options. 15:19:29

4 Q Right. So if we look at those -- 15:19:35

5 MS. RICHEY: Okay. I'm going to object 15:19:41

6 to this. Michael, I'm not doing a standing 15:19:42

7 objection on scope because this is getting beyond -- 15:19:45

8 I'm about to call off the questioning because 15:19:49

9 it's -- you're comparing documents and going so far 15:19:52

10 beyond whatever I asked him. 15:19:55

11 MR. JONES: He had a question what I 15:19:57

12 meant by "housing," and I was just telling him I'm 15:19:58

13 using it the same way he did. 15:20:00

14 I'll restart the question. 15:20:03

15 Q So counsel asked you during redirect 15:20:04

16 about whether pages 16, 17, and 18 show your 15:20:10

17 invention. 15:20:14

18 Do you recall that? 15:20:14

19 A Yes. 15:20:16

20 Q Okay. Do pages 17 and 18 show a housing 15:20:17

21 for your invention? 15:20:22

22 MS. RICHEY: Objection, form. 15:20:24

1	A	It all depends on how you define	15:20:30
2		"housing."	15:20:35
3	Q	And the definition of "housing" I'm using	15:20:36
4		is the same definition as you used it in your IPR	15:20:38
5		declaration, 2045. Whatever that definition is.	15:20:41
6		So I'll re-ask my question.	15:20:52
7		Do pages 17 and 18 show a housing for	15:20:54
8		your invention?	15:21:00
9		MS. RICHEY: Objection, form.	15:21:01
10	A	Yeah, again, that seems like a leading	15:21:06
11		question that is putting words in my mouth.	15:21:10
12	Q	So I'm not -- I'm trying to do the	15:21:13
13		opposite. So you used the word "housing" in your	15:21:15
14		declaration for the IPR, correct?	15:21:19
15	A	Yes.	15:21:22
16	Q	Whatever definition of "housing" you used	15:21:22
17		there, I'm using that same one. Not putting any	15:21:26
18		words in your mouth.	15:21:29
19	A	So I have stated that this "same as	15:21:30
20		current" notation in the spreadsheet, that it	15:21:34
21		appears that the -- that the images on pages 17 and	15:21:41
22		18 are follow-ups to that Excel spreadsheet cell	15:21:53

1	36B.	15:22:04
2	Q Right. So do they show potential	15:22:08
3	mechanical housing for your invention?	15:22:11
4	MS. RICHEY: Okay. Michael, I'm going to	15:22:14
5	shut this down. This has been going on for a while.	15:22:16
6	I'm happy to confer with you, even outside the	15:22:19
7	presence of Mr. Ray.	15:22:21
8	MR. JONES: If you shut it down, we're	15:22:27
9	going to have to, I guess, get on a call with the	15:22:29
10	Board. But we can confer first.	15:22:32
11	MS. RICHEY: I'm happy to confer, and I	15:22:34
12	can do it outside of his presence.	15:22:36
13	MR. JONES: I don't have a preference.	15:22:38
14	But I can state for the record, so you asked him	15:22:39
15	about whether these pages showed his invention, and	15:22:42
16	I'm asking him which aspects of the invention it	15:22:45
17	showed in response to what you asked.	15:22:48
18	He had concerns about the use of the word	15:22:49
19	"housing," so I told him that I was using the word	15:22:51
20	"housing" in the same fashion he had.	15:22:52
21	I don't believe I'm anywhere near outside	15:22:55
22	of scope.	15:22:56

1	MS. RICHEY: That's not accurate. So	15:22:57
2	what I asked him was to state the pages that	15:22:59
3	represented the invention of the '416. And you're	15:23:00
4	asking him, do pages 17 and 18 show the housing for	15:23:03
5	your invention.	15:23:07
6	You've twisted what he said and are now	15:23:08
7	trying to use the word "invention" in order to get a	15:23:10
8	sound bite for your deposition. And he's already	15:23:14
9	asked and answered the question. Now you're going	15:23:18
10	and comparing documents that I didn't even bring up	15:23:20
11	during my redirect.	15:23:23
12	MR. JONES: I'm not comparing documents.	15:23:24
13	He asked what "housing" means, and I was just	15:23:26
14	telling him that I was using his definition of	15:23:28
15	"housing." I wasn't comparing documents. And I'm	15:23:30
16	limiting my question to the pages you referred to	15:23:32
17	during your redirect.	15:23:34
18	MS. RICHEY: So first of all, you	15:23:37
19	mischaracterized what I asked. I asked him what	15:23:38
20	his -- what pages of the notebook represent the	15:23:40
21	invention of the '416.	15:23:44
22	You're telling him that I told him that	15:23:45

1	the pages were 16, 17, and 18. And that's not	15:23:48
2	accurate. I didn't tell him that.	15:23:52
3	MR. JONES: I'm happy to rephrase.	15:23:54
4	Q So I'll use -- I'm reading from the	15:23:56
5	transcript here.	15:24:01
6	Do you recall when counsel asked you what	15:24:02
7	pages of the notebook represent the invention of the	15:24:04
8	'416?	15:24:07
9	A Not anymore.	15:24:09
10	Q Earlier, counsel asked you what pages of	15:24:12
11	the notebook represent the invention of the '416.	15:24:16
12	Do you recall identifying pages 16, 17,	15:24:20
13	and 18?	15:24:23
14	A I recall that we did go to 16, 17, and	15:24:25
15	18. I don't know how we got there.	15:24:30
16	Q Okay. Do those pages show the housing	15:24:39
17	for your invention?	15:24:43
18	MS. RICHEY: Objection, form.	15:24:45
19	A I don't know, and if you use the	15:24:51
20	definition of "housing" that I described to before,	15:25:00
21	it appears that these are extensions to cell 36B, as	15:25:05
22	noted in my document that's now we're calling	15:25:10

1	Ray-2004 or something.	15:25:19
2	Q Okay. And what is shown here on pages 17	15:25:24
3	and 18?	15:25:27
4	MS. RICHEY: Objection, form.	15:25:30
5	A We're back to, I have to redescribe this	15:25:37
6	over and over again until I use the vocabulary that	15:25:42
7	you wish me to use, and that feels hostile.	15:25:45
8	Q If that's what we were doing, I would	15:25:51
9	agree. But that's not what I'm doing. And I	15:25:54
10	thought I was asking something straightforward. And	15:25:58
11	I'm happy to use different terminology. And if you	15:26:01
12	have different terminology, please suggest it. I'm	15:26:04
13	not trying to put words in your mouth.	15:26:06
14	A So if you would like me to redescribe	15:26:08
15	what those objects are, I think I've described it	15:26:10
16	multiple times now, that they are mechanical designs	15:26:12
17	that represent a way of modifying the "same as	15:26:16
18	current" so that we can use that as a mux without	15:26:21
19	changing the tool to a huge degree.	15:26:29
20	Recall that we were operating this on our	15:26:35
21	own, and so we were putting money out of our pocket	15:26:39
22	for these tools. They're expensive. And we didn't	15:26:42

1	want to spend unnecessary cash if we didn't have to.	15:26:45
2	MS. RICHEY: So I'm going to object to	15:26:51
3	this whole line of questioning again because it's	15:26:53
4	way beyond -- now we're talking about cash, and your	15:26:56
5	questions are eliciting answers that go way beyond	15:26:57
6	the redirect.	15:27:01
7	So Michael, I think this is -- I think	15:27:02
8	we're done here.	15:27:07
9	MR. JONES: We're not.	15:27:08
10	Q So if we go back to pages 17 and 18.	15:27:10
11	A Which one is it on?	15:27:24
12	Q I believe we're at page approximately 79	15:27:36
13	of Exhibit 1002.	15:27:41
14	A On what header?	15:27:43
15	Q 1002.	15:27:45
16	A There's 1001.	15:27:51
17	MS. RICHEY: It might have been	15:27:53
18	accidentally closed.	15:27:54
19	MR. JONES: It's possible that we lost	15:27:56
20	it.	15:27:57
21	Operator, could you please pull 1002 back	15:28:00
22	up.	15:28:04

1	A/V TECH: Please stand by.	15:28:05
2	A This is what you wanted?	15:28:39
3	Q Yep. So I'll start back from the top.	15:28:41
4	During your redirect, counsel asked you	15:28:51
5	what pages of the notebook represent the invention	15:29:08
6	of the '416 patent.	15:29:10
7	Do you recall identifying pages 16, 17,	15:29:14
8	and 18?	15:29:17
9	A Yes, they represent it.	15:29:17
10	Q Okay. So then my question is, are the	15:29:19
11	housing aspects of your invention shown on pages 17	15:29:27
12	and 18?	15:29:33
13	MS. RICHEY: Is that a question?	15:29:39
14	Q Are the housing aspects of your invention	15:29:41
15	shown on pages 17 and 18?	15:29:43
16	A It's a circular argument about what the	15:29:49
17	definition of "housing" is. I would answer no based	15:29:52
18	on an inaccurate definition of "housing."	15:30:00
19	Q When you wrote "housing" in paragraph 15	15:30:05
20	of your declaration, what did you mean by "housing,"	15:30:07
21	"mechanical housing"?	15:30:14
22	I don't want to put words in your mouth,	15:30:15

1 so I want to use your words exactly. 15:30:18

2 So when you wrote "mechanical housing" in 15:30:20

3 paragraph 15 of Exhibit 2004, what did you mean by 15:30:22

4 "housing"? 15:30:27

5 MS. RICHEY: Objection, scope. 15:30:28

6 Now this question is not related back to 15:30:29

7 anything relating to my questions on redirect. So I 15:30:31

8 don't know where you're going with this, Michael. 15:30:32

9 MR. JONES: I asked the question related 15:30:35

10 to your redirect. He wasn't sure what the 15:30:36

11 definition of one of the words in the question was, 15:30:39

12 so now we have to establish a definition so I can 15:30:41

13 ask my question about your redirect. That's all 15:30:44

14 this -- 15:30:46

15 A I don't think she asked me about housing; 15:30:47

16 you did. 15:30:50

17 Q Correct. I'm asking you about -- 15:30:50

18 (Cross-talk.) 15:30:58

19 (Reporter interruption.) 15:31:00

20 Q We can start before from the top. 15:31:00

21 In paragraph [sic] 2045 of your 15:31:02

22 declaration -- paragraph 15 -- 15:31:05

1	A	And that's a different document?	15:31:09
2	Q	Yes.	15:31:11
3		-- you used the phrase "mechanical	15:31:11
4		housing." This is a --	15:31:13
5	A	Am I allowed to go to a different	15:31:15
6		document for this redirect?	15:31:18
7	Q	Yes, Ray-2045.	15:31:20
8		MS. RICHEY: No, you're not allowed to go	15:31:22
9		to this -- this is where we're adjourned.	15:31:24
10		MR. JONES: Carrie, if that's your	15:31:25
11		instruction, we're going to the Board. So is that	15:31:27
12		what you want to do? They have a hotline. I can	15:31:30
13		explain that I'm asking a question within the scope,	15:31:33
14		but he has a question about definition, and I need	15:31:33
15		to use a second document to establish a definition.	15:31:37
16		And we can explain that if you want to go to the	15:31:37
17		Board.	15:31:40
18		MS. RICHEY: Okay. I did not ask him	15:31:40
19		about housing. The question we started out with is	15:31:43
20		where I asked him what pages of his invention	15:31:47
21		notebook describe the invention.	15:31:52
22		MR. JONES: Yep. And I'm asking him --	15:31:55

1 I'm going to ask him whether that invention includes 15:31:56
2 the housing of the invention. That's all I'm 15:31:59
3 asking. I thought this was going to be a 30-second 15:32:02
4 recross. But I just don't understand. 15:32:05

5 So I'm trying to -- he has asked that I 15:32:08
6 not put words in his mouth, and I'm trying to be 15:32:11
7 respectful of that. So I'm trying to use the exact 15:32:14
8 phrasing that he used in his declaration so that 15:32:16
9 we're all on the same page. 15:32:20

10 MS. RICHEY: We're looking at a different 15:32:21
11 declaration. And actually, what you started out 15:32:25
12 asking was -- I asked what shows the invention; he 15:32:27
13 said the pages; and your question actually was, do 15:32:30
14 those pages show a housing for your invention. 15:32:33

15 You threw in the word "housing." And 15:32:37
16 then he doesn't know what you mean by "housing," so 15:32:39
17 now you're the one who's going to a different 15:32:42
18 document. 15:32:44

19 MR. JONES: Yeah, to tell him what 15:32:44
20 "housing" means. 15:32:44

21 MS. RICHEY: That is beyond what I asked. 15:32:45

22 MR. JONES: I'm somewhat embarrassed we 15:32:48

1 have to do this, but I think we have to go to the 15:32:51
2 Board if you're going to instruct him not to look at 15:32:53
3 2045 for the definition. I don't know where else to 15:32:55
4 go other than just to do this all day. 15:32:58
5 MS. RICHEY: Okay. 15:33:00
6 A How about you re-ask the question and 15:33:01
7 don't use "housing"? 15:33:03
8 Q So if I knew a different word -- 15:33:04
9 A Use the definition that's on 2045, then. 15:33:07
10 Q Mechanical housing? That one? 15:33:10
11 A Whatever you want to use. Just don't 15:33:13
12 point me to another document. 15:33:15
13 Q Okay. So if we look at page 17 and 18 of 15:33:16
14 your inventor notebook. 15:33:23
15 A Yes. Okay. 15:33:26
16 Q I believe it's the next page. 15:33:37
17 So if we look at page 17 of your inventor 15:33:40
18 notebook, does this show the mechanical housing of 15:33:43
19 your invention? 15:33:46
20 A You used the word again. You used the 15:33:49
21 word again. It all depends on what you refer to as 15:33:55
22 "housing," and we're not allowed to go to a 15:33:57

1 different document to get it. 15:33:59

2 Q We absolutely are allowed to go to 15:34:00

3 another document. 15:34:03

4 A You can replace -- you can replace the 15:34:03

5 word "housing" with any definition you want, and I 15:34:06

6 can answer the question. 15:34:08

7 Q That's why -- so yeah, and I don't want 15:34:09

8 to replace it. So I want to use a word that you 15:34:12

9 know what it means, you state the definition, and 15:34:15

10 you answer so that no one is putting words in your 15:34:17

11 mouth. 15:34:20

12 So if you have a different word that you 15:34:20

13 want to use, I'm fully on board with that. I think 15:34:22

14 we all know what I'm talking about when I say 15:34:25

15 "housing." But if there's a different word -- 15:34:27

16 A This shows a molded part that has been 15:34:29

17 modified in order to show an example of the 15:34:31

18 invention. It's been modified by item 66 in the 15:34:38

19 patent that we covered before with a reflector 15:34:44

20 that's inverted in this case. It's possibly 15:34:48

21 modified at lens 2. And the position of the lasers 15:34:51

22 are in a different fashion. 15:34:59

1	Q	Modified relative to what?	15:35:11
2	A	These lasers would be in a two-by-two	15:35:15
3		array versus a linear array that was in the previous	15:35:20
4		design.	15:35:24
5	Q	The previous Aduro design?	15:35:31
6	A	Yes.	15:35:33
7	Q	Okay. Is this the only molded part that	15:35:44
8		can be used with your invention?	15:35:47
9	A	No.	15:35:49
10		MS. RICHEY: Objection, form.	15:35:50
11	Q	What other molded part designs can be	15:35:53
12		used with your invention?	15:35:56
13		MS. RICHEY: Objection, form, scope.	15:35:59
14	A	I don't know if that question is part of	15:36:05
15		this process, but the -- I've already discussed that	15:36:09
16		the axial design could be used, the barrel-type.	15:36:13
17	Q	Okay. And are there any other designs	15:36:20
18		that could be used for this part?	15:36:22
19		MS. RICHEY: Object to form.	15:36:27
20	A	At the time, I believe we had different	15:36:28
21		designs that were shown here, or disclosed. But if	15:36:38
22		you asked me to redesign it, I doubt I still have	15:36:43

1	the skills in order to do that with different forms.	15:36:46
2	MR. JONES: All right. I think that is	15:38:21
3	all from me. Thank you, Mr. Ray.	15:38:22
4	THE WITNESS: You're welcome. Thank you.	15:38:28
5	COURT REPORTER: Anything else for the	15:38:30
6	record?	15:38:31
7	MS. RICHEY: Nothing from me.	15:38:32
8	VIDEOGRAPHER: This marks the end of the	15:38:35
9	deposition of Curtis A. Ray. We are going off the	15:38:37
10	record at 3:38.	15:38:41
11	(Transcript orders discussed.)	15:38:43
12	COURT REPORTER: Thank you. That's all I	15:38:43
13	need.	
14	(Off the record at 3:41 p.m.)	
15		
16		
17		
18		
19		
20		
21		
22		

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2
3 I, Lisa V. Feissner, RDR, CRR and Notary
4 Public in and for the District of Columbia, do
5 hereby certify:
6

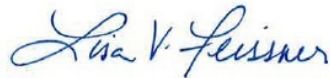
7 That CURTIS RAY, the witness whose
8 deposition is hereinbefore set forth, was duly sworn
9 by me before the commencement of such deposition,
10 and that such deposition was taken before me and is
11 a true record of the testimony given by such
12 witness.
13

14 I further certify that the adverse party,
15 INNEOS LLC, was represented by counsel at the
16 deposition.
17

18 I further certify that the deposition of
19 CURTIS RAY, occurred REMOTELY on THURSDAY, JUNE 13,
20 2024, commencing at 12:12 and concluding at 3:41.
21
22

1 I further certify that I am not related
2 to any of the parties to this action by blood or
3 marriage, I am not employed by or an attorney to any
4 of the parties to this action, and that I am in no
5 way interested, financially or otherwise, in the
6 outcome of this matter.

7
8 IN WITNESS WHEREOF, I have hereunto set
9 my hand this 19th day of JUNE, 2024.

10 
11

12 _____
13 NOTARY PUBLIC IN AND FOR
14 THE DISTRICT OF COLUMBIA
15 MY COMMISSION EXPIRES JUNE 15, 2028
16
17
18
19
20
21
22

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Conducted on June 13, 2024

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