



Planet Depos®
We Make It *Happen*™

Transcript of Kurt Duane Humphrey

Date: October 1, 2025

Case: Samsung Display Co., Ltd. -v- Pictiva Displays International Ltd. (PTAB)

Planet Depos

Phone: 888.433.3767 | **Email:** transcripts@planetdepos.com

www.planetdepos.com

Michigan #8598 | Nevada #089F | New Mexico #566

WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

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

3 - - - - - x
4 SAMSUNG DISPLAY :
5 CO., LTD., :
6 Petitioner, : Case No. IPR2024-01222
7 v. : Patent No. 6,949,389
8 PICTIVA DISPLAYS :
9 INTERNATIONAL LTD., :
10 Patent Owner. :
11 - - - - - X

12
13 Deposition of KURT DUANE HUMPHREY
14 Conducted Virtually
15 Wednesday, October 1st, 2025
16 10:58 a.m. EDT

17
18
19
20 Job No.: 601802
21 Pages 1 - 141
22 Reported by: Debra A. Whitehead

1 Deposition of KURT DUANE HUMPHREY, conducted
2 virtually.

3
4
5 Pursuant to notice, before Debra Ann Whitehead,
6 E-Notary Public in and for the Commonwealth of
7 Virginia.

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

2 ON BEHALF OF PETITIONER:

3 DAVID A. GARR, ESQUIRE

4 DEREK J. ANDROS, ESQUIRE

5 COVINGTON & BURLING LLP

6 One City Center

7 850 Tenth Street, NW

8 Washington, DC 20001-4956

9 (202) 662-6000

10

11 ON BEHALF OF PATENT OWNER:

12 HONG (ANNITA) ZHONG, ESQUIRE

13 IRELL & MANELLA LLP

14 1800 Avenue of the Stars

15 Suite 900

16 Los Angeles, California 90067

17 (310) 203-7183

18

19

20 ALSO PRESENT:

21 JEREMY HATFIELD, A/V Technician

22

C O N T E N T S

EXAMINATION OF KURT DUANE HUMPHREY	PAGE
By Mr. Garr	6
By Ms. Zhong	124

EXHIBITS MARKED IN TODAY'S SESSION

(Attached to the Transcript)

DEPOSITION EXHIBIT	PAGE
Exhibit 1026 Burroughs Wellcome Co. V Barr Labs, Inc., Opinion	65
Exhibit 1027 Exhibit 2006, Annotated	124

EXHIBITS MARKED IN PRIOR SESSIONS

(Not attached)

DEPOSITION EXHIBIT	PAGE
Exhibit 1001	17
Exhibit 1005	134
Exhibit 1006	130
Exhibit 1008	107
Exhibit 2001	10
Exhibit 2006	27
Exhibit 2046	8

1	EXHIBITS MARKED IN PRIOR SESSIONS - CONTINUED	
2	DEPOSITION EXHIBIT	PAGE
3	Exhibit 2047	125
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		

1 P R O C E E D I N G S

2 KURT DUANE HUMPHREY,

3 having been duly sworn, testified as follows:

4 EXAMINATION BY COUNSEL FOR PETITIONER

5 BY MR. GARR:

6 Q Good morning, Mr. Humphrey.

7 A Good morning.

8 Q Could I ask you to state your full name
9 for the record, please.

10 A Kurt Duane Humphrey.

11 Q And you have been deposed before.

12 Correct?

13 A I have.

14 Q Is there any reason you can't give true
15 and accurate testimony today?

16 A No.

17 Q Where are you currently located, like,
18 right -- sitting here today?

19 A In my home in Colorado Springs, Colorado.

20 Q And do you have any communication devices
21 accessible to you at the moment?

22 A Communication devices? What do you mean?

1 Q Like other than this Zoom, like --

2 A No. Actually --

3 Q Is your email open or --

4 A I appreciate the reminder. I probably
5 need to silence myself on my phone, which I have
6 not done yet. So thank you for that.

7 Q Okay.

8 A But yeah, that's all.

9 Q And if anyone attempts to communicate to
10 you during the deposition or you receive a call or
11 something like that, please just let us know.

12 Is that okay?

13 A Will do.

14 Q You're testifying in two IPR matters, or
15 serving as an expert in two IPR matters relating
16 to the '389 patent.

17 Is that correct?

18 A That's correct.

19 Q One has a number 01222, and the other one
20 has a number 01223?

21 A That's correct.

22 Q Do you understand that?

1 And this deposition is for the 01222
2 matter.

3 Is that your understanding?

4 A Yes.

5 Q Okay. So during this deposition if I
6 refer to "this case" or "this IPR" or something
7 like that, you'll understand that I'm referring to
8 the 01222 matter. Okay?

9 A Okay.

10 Q And you have submitted two declarations
11 in this case, that is 01222. Correct?

12 A I've submitted one declaration in the
13 1222 matter.

14 MR. GARR: I have one exhibit called
15 Exhibit 2046 that I'd like to make accessible to
16 the witness, or ask questions about.

17 (Exhibit 2046, previously marked, not
18 attached.)

19 Q I guess, Mr. Humphrey, do you have any of
20 the documents relating to this proceeding in front
21 of you?

22 A Yes; I've got a copy of 1222 and the 1223

1 declaration.

2 Q And I believe in the chat has been placed
3 a document that's been marked Exhibit 2046.

4 Do you see that document or have it
5 available to you?

6 A I'm trying to open that up here.

7 Okay. Yes, I see that. Let me try to
8 open that. Okay.

9 Q Do you recognize this document?

10 A Well, it isn't -- well, here, let me
11 download it, I guess that's going to be the
12 easiest way. It's wanting me to save it.

13 Q Yeah, it did that for me, too.

14 A So I can go ahead and save it, and then
15 I'll open it from my -- my folder over here.
16 Okay. At long last I think it's opening here.
17 Let me try closing just a couple of things here to
18 maybe free up some more ...

19 (Discussion off the record; technical
20 difficulty.)

21 A It does seem to be open now. I have it
22 up.

1 Q Okay. You have the document that's
2 marked Exhibit 2046 in front of you.

3 Is that right?

4 A Yes.

5 Q And you recognize this document?

6 A Yes.

7 Q This is a declaration that you submitted
8 in this case. Correct?

9 A Yes. It appears to be.

10 Q And was this testimony accurate to the
11 best of your knowledge when you submitted this
12 declaration?

13 A Yes.

14 Q And do you stand by it today?

15 A Yes.

16 MR. GARR: I'd also like to ask, I'm
17 going to ask the technician to put in the chat and
18 bring up on the screen just for ease of reference
19 the document that's marked Exhibit 2001.

20 (Exhibit 2001, previously marked, not
21 attached.)

22 MR. GARR: And could I ask that just be

1 brought up on the screen, please. I'm not going
2 to ask a lot of questions about it, at least not
3 at this time.

4 Q Do you see Exhibit 2001 in front of you,
5 Mr. Humphrey?

6 A Yes.

7 MR. GARR: And could I ask to have it
8 scrolled to the last page.

9 Q Okay. This is another declaration with
10 your name on it.

11 Do you recognize that?

12 A Yes.

13 Q And this one is dated December 11th.

14 Do you recognize that?

15 A Yes.

16 Q And is this another declaration that you
17 submitted in this case?

18 A Yes.

19 Q And was it accurate at the time you
20 submitted it?

21 A Yes, I believe so.

22 Q Do you stand by the testimony in it

1 today?

2 A Yes.

3 Q When were you retained in connection with
4 this matter?

5 A I think approximately August of 2024.

6 Q All right. And what was your process in
7 preparing these two declarations, Exhibit 2001 and
8 Exhibit 2046?

9 A Basically the review of the patent at
10 issue and prosecution histories and the petition
11 that had been filed for the IPR.

12 Q And have you offered opinions on the '389
13 patent in any other matters?

14 A For the district court, I actually -- as
15 well.

16 Q And what is your role in the district
17 court action?

18 MS. ZHONG: Objection, relevance.
19 Objection, form.

20 A I'm a testifying expert for the
21 plaintiff.

22 Q And on what matters have you offered

1 opinion testimony with respect to the '389 patent
2 in that matter?

3 A I've provided expert reports for the '389
4 patent.

5 Q And have you provided testimony on the
6 '389 patent in that case?

7 MS. ZHONG: Objection. Form. Relevance.

8 A Well, the trial date is upcoming, and,
9 yes, I'll be providing testimony for the trial.

10 Q And have you provided deposition
11 testimony in connection with that matter?

12 A Yes, I believe so. Back in May, I think.

13 Q Just one deposition?

14 A Yes. Yes.

15 Q In connection with your work on this
16 matter, did you review the petition that was
17 filed?

18 A Yes.

19 Q And did you review the exhibits submitted
20 with the petition?

21 A Yes.

22 Q And that includes a declaration from

1 Dr. Subramanian?

2 A Correct.

3 Q Have you -- are you aware that he was
4 deposed in this matter?

5 A Yes, I believe it's been mentioned.

6 Q Have you reviewed his deposition
7 testimony?

8 A Yes.

9 Q Do you know Dr. Subramanian?

10 A I do not.

11 Q I want to turn to your declaration,
12 Exhibit 2046. And would it be okay if I refer to
13 Exhibit 2046 as your declaration? So if I just
14 say "declaration," that's the document I'm
15 referring to?

16 A Yes, that's fine.

17 Q Okay. If at some point I need to say
18 something about the earlier declaration, Exhibit
19 2001, I'll make it clear that I'm referring to
20 that one. Okay?

21 A Okay.

22 Q Do you have Exhibit 2046 in front of you?

1 A Yes.

2 Q And at the end of that document is a
3 section labeled Appendix A.

4 Do you see that?

5 A Yes.

6 Q What is Appendix A?

7 A It's a CV, my CV.

8 Q And was it accurate at the time that you
9 submitted this declaration?

10 A Yes.

11 Q Does it remain accurate today?

12 A Yes, for the most part.

13 Q It provides a list of expert litigation
14 case history on Pages 4 and 5 of Appendix A.

15 Do you see that?

16 A Yes.

17 Q And does that list identify all of the
18 matters in which you've served as an expert in
19 patent litigation matters?

20 A Yes, I believe so.

21 Q And is that list current?

22 A Yes.

1 Q On Page 4 next to the year 2018 -- or
2 sorry, 2020, is an IPR case where Samsung Display
3 is the petitioner.

4 Do you see that?

5 A Yes.

6 Q What was that case about, to the extent
7 you recall?

8 A To be honest with you, I don't recall
9 many details of that case.

10 Q But you do believe it's correct that you
11 provided an expert declaration in support of the
12 patent owner?

13 A Yes, I believe that's true.

14 Q Do you know if that declaration was
15 filed?

16 A I don't know.

17 Q Do you know if you were deposed in that
18 case?

19 A I don't recall.

20 MR. GARR: Okay. I'd like to bring a new
21 exhibit into the deposition record, and this is
22 Exhibit 1001.

1 (Exhibit 1001, previously marked, not
2 attached.)

3 MR. GARR: Could I have that, please,
4 placed in the chat and/or put on the screen for
5 the witness.

6 Q Mr. Humphrey, do you have in front of you
7 Exhibit 1001?

8 A Yes.

9 Q And do you recognize this document?

10 A Yes.

11 Q It's U.S. Patent 6,949,389. Correct?

12 A Correct.

13 Q And this is the patent on which you've
14 provided testimony in this matter. Correct?

15 A Yes.

16 Q And is it okay if we refer to this as the
17 '389 patent for today's deposition?

18 A That's fine.

19 Q What is a PML?

20 A It's a polymer multilayer structure,
21 acronym for polymer multilayer structure.

22 Q And is that term addressed in the '389

1 patent?

2 A Yes.

3 Q And where is that?

4 A I think it's in the Background section.

5 Q Can you turn to that.

6 And do you have this document in front of
7 you, like, or do you need it on the screen?

8 Because I'll probably ask a number of questions
9 about this and a few others. What would be the
10 easiest?

11 A I can pull it up on my own screen, if
12 that helps.

13 Q Okay. Yeah. Please do that, if it works
14 for you.

15 I don't know if there is a question
16 pending or not.

17 Is the term PML addressed in the '389
18 patent?

19 A Yes.

20 Q And where is that addressed?

21 A In the Background of the Invention
22 section. Maybe elsewhere, but primarily in the

1 Background of the Invention section.

2 Q Are you referring to the discussion
3 beginning in Column 1?

4 A Yes.

5 Q Okay. And does the discussion in Column
6 1 provide an accurate definition of polymer
7 multilayer, or PML?

8 A Yes.

9 MS. ZHONG: Objection. Form.

10 Q And is the definition that's provided in
11 Column 1 the definition that you have been using
12 in connection with this case?

13 MS. ZHONG: Objection. Form.

14 A I don't disagree with the definition in
15 Column 1, I guess it would be Line 28 and 29.

16 Q And there's a paragraph in Column --

17 A I'm sorry. Excuse me. I misspoke. I
18 misread the line numbers. It's Lines -- Column 1,
19 Lines 19 to 23 -- or 22.

20 Q This is the discussion beginning with the
21 phrase, "Of late, there has been some discussion"?

22 A It's in that paragraph. I was referring

1 specifically to, "In this matter, thin film
2 encapsulation is typically described as a polymer
3 multilayer comprising alternating and repeating
4 layers of an organic (usually acrylate or the
5 like) and a barrier layer."

6 Q And the Background of the Invention
7 section goes on to discuss aspects relating to PML
8 structures through at least the rest of Column 1.

9 Is that correct?

10 A Yes.

11 Q And do you believe the discussion
12 relating to polymer multilayers in Column 1 is
13 accurate?

14 A I believe it --

15 MS. ZHONG: Objection.

16 A -- is representative of the -- the art to
17 the date of the -- of the invention.

18 Q And is it consistent with the
19 understanding of PML that you have been using in
20 connection with this case?

21 MS. ZHONG: Objection. Form.

22 A Well, let me refer to my report in terms

1 of accurately answering your question.

2 In Paragraph 15 of my declaration I
3 state, "One way to achieve thin film encapsulation
4 is using PML or polymer multilayer comprising
5 alternating and repeating layers of an organic and
6 a barrier layer," which is an excerpt from Column
7 1, Lines 19 to 22 of the '389 patent.

8 Q Your declaration goes on to discuss
9 further aspects relating to PML vis- -vis the '389
10 patent in Paragraphs 15, 16, 17, and 18.

11 Is that correct?

12 A That's correct.

13 Q Was the information in these Paragraphs
14 15 through 18 that you discuss known in the art at
15 the time of the '389 patent?

16 A Generally I would say yes. I'd have to
17 go through every sentence to confirm that, but
18 generally that should be true.

19 Q And the '389 patent presents this
20 information as information that was known in the
21 art. Correct?

22 A Well, some of the points made in 17,

1 Paragraph 17 specifically and 38, are part of the
2 invention, the '389 invention itself. So to that
3 extent they would not necessarily have been known
4 prior to the invention.

5 Q Okay. But with respect to the concepts
6 discussed in Paragraphs 15 and 16, that
7 information was known in the art. Correct?

8 A Yes, I believe that's a true statement.

9 Q And the '389 presents the information
10 that you discuss in Paragraphs 15 and 16 of your
11 declaration as information that was known in the
12 art. Correct?

13 MS. ZHONG: I had connection problems.

14 (Discussion off the record; technical
15 difficulty.)

16 MS. ZHONG: I lost connection for about
17 five minutes. Sorry about that.

18 Q In Paragraph 16 your declaration states
19 that the PML structure includes a barrier layer
20 108 and another organic planarization layer 110.

21 Do you see that?

22 A In Paragraph 16?

1 Q Yeah. Actually, you can strike that
2 question. Let me ask a different one.

3 I'm going to ask about Paragraph 15.

4 Do you see that?

5 A Hold on just a second. I'm pulling up
6 '389 on my screen here.

7 Q Okay. Do you have Paragraph 15 in front
8 of you?

9 A One moment, I'm looking at the '389
10 patent at the moment.

11 Okay. If you could repeat your question,
12 please.

13 Q Okay. Well, first, I think there was a
14 prior question about the information that you
15 discuss in Paragraphs 15 and 16 of your
16 declaration. I asked whether that, the
17 information in these two Paragraphs 15 and 16, was
18 known in the art at the time of the '389 patent,
19 and I don't see the answer in the transcript.

20 MS. ZHONG: Okay. I'm going to object to
21 that line of questions since I was absent.

22 MR. GARR: Yeah, I don't think that's

1 very clear.

2 Q But anyway, the question is, '389 patent
3 presents the information that you discuss in
4 Paragraphs 15 and 16 as information that was known
5 in the art. Correct?

6 MS. ZHONG: Objection. Form.

7 A Pardon me. I'm having some difficulties
8 going back and forth between the '389 patent and
9 my declaration at the moment. Let me try to
10 straighten that out.

11 Okay. After all that. Okay. Hopefully
12 having two screens open here will speed things up.

13 But I believe your question was regarding
14 Paragraph 16. Is that correct?

15 Q I'm asking about the information in
16 Paragraphs 15 and 16 that you discuss in those
17 paragraphs.

18 A Yes.

19 Q And my question is whether the
20 information relating to PMLs in those two
21 paragraphs is presented in the '389 patent as
22 being known in the art?

1 A Well, Paragraph 15 I believe represents
2 concepts that were known in prior art. Most of 16
3 as well, although the last sentence of 16 is
4 debatable.

5 Q In Paragraph 15 you quote the '389 patent
6 as discussing alternating and repeating layers of
7 an organic and a barrier layer.

8 Do you see that?

9 A I do.

10 Q How many layers in total does a PML
11 entail?

12 MS. ZHONG: Objection. Form.

13 A It -- it can vary.

14 Q What's the minimum number of layers?

15 A The minimum number would be two in
16 general.

17 Q And what would those two layers be?

18 A An organic layer and a barrier layer.

19 Q And it can have more than two layers as
20 well?

21 A Yes.

22 Q Up to how many layers can it have?

1 A I don't know that there's any theoretical
2 limit to the number of layers. There are
3 obviously practical limitations. But it can have
4 any number of layers, or dyads as they're referred
5 to in the -- in the art.

6 Q You've provided opinions in this matter
7 relating to the issue of conception.

8 Is that correct?

9 A Yes.

10 Q And this is in your declaration I believe
11 beginning on Page 75, Paragraph 149.

12 Do you see that?

13 A Yes. Page 75, yes, I'm there.

14 Q And in particular you point to a February
15 8, 2001, email exchange.

16 Is that correct?

17 A Yes.

18 Q And that exchange is provided in Exhibit
19 2006, Page 1. Correct?

20 A Yes.

21 Q Okay. Do you have that document
22 available to you?

1 A No. I mean, I'll need to try to bring
2 that up unless you want to bring it up on the
3 screen.

4 MR. GARR: Okay. Let's bring into the
5 deposition record Exhibit 2006.

6 (Exhibit 2006, previously marked, not
7 attached.)

8 Q And all of my questions are going to be
9 about Page 1, so perhaps we could just put that up
10 on the screen.

11 Okay. Do you see Page 1 of Exhibit 2006
12 in front of you?

13 A I do.

14 Q And this is the email exchange that you
15 discussed beginning on Paragraph 149 of your
16 declaration. Correct?

17 A Yes.

18 Q Okay. And there are -- this email
19 exchange has three individual email messages.

20 Right?

21 A I believe so, although I can't see them
22 all. This is a fairly small-font document. So to

1 be able to read it it has to be expanded, but then
2 I can't see the rest of it.

3 But I believe that is a correct
4 statement, yes.

5 Q Okay. Your understanding is that the
6 first of the email messages is the one at the
7 bottom of the document?

8 MR. GARR: It needs to be scrolled down
9 so that we can see it on the screen. No. No.
10 The bottom of Page 1. Excuse me.

11 A Yeah, there you go.

12 MR. GARR: And if you can blow that up,
13 please, so that the witness and I can read it
14 better, that would be wonderful.

15 Q Okay. So the bottom message says it's
16 from Karl Pichler. Correct?

17 A Correct.

18 Q It's got a time stamp here of 1:28 a.m.?

19 A Correct.

20 Q And what is being discussed in this email
21 as you understand it in this particular message?

22 MS. ZHONG: Objection. Form.

1 A The individuals, or Mr. Pichler is -- it
2 is talking about some PML encapsulation work that
3 he apparently did at eMagin.

4 Q Okay. The email includes the term LML.
5 Do you see that?

6 A I do.

7 Q What is LML?

8 A I'm not sure what that acronym is for.

9 Q Do you understand the email is equating
10 LML with spinning in inert conditions a carefully
11 outgassed cross-linkable solution, that sort of
12 concept?

13 MS. ZHONG: Objection. Form.

14 A Yes, that appears to be how he's
15 describing LML.

16 Q Okay. And he says that should be
17 perfectly feasible and avoid many equipment issues
18 with PML.

19 Do you see that?

20 A Yes.

21 Q Do you understand what that is
22 indicating?

1 A Not entirely. It would seem to be that
2 he's implying that there are some equipment
3 limitations that are present at the time in
4 performing some of this processing.

5 Q Some of the processing in connection with
6 PML encapsulation structures?

7 A Yes, it appears so.

8 Q And he's proposing LML as -- let me just
9 ask this more open-ended.

10 Is LML being proposed as an alternative
11 to PML, as you understand it?

12 MS. ZHONG: Objection. Form.

13 A My best interpretation is it's being
14 proposed as an -- as an option or an alternative
15 to maybe the PML process that is intended or
16 desired.

17 Q How does LML, as that concept is used in
18 this email, differ from the concept of PML
19 encapsulation that we've been discussing?

20 A Well, it specifies what appears to be a
21 spin-coating process for the organic layer and a
22 sputtering process for the barrier.

1 Q And that's being proposed as an
2 alternative to PML encapsulation in this message,
3 as you understand it?

4 MS. ZHONG: Objection. Form.

5 A I've never spoken to the inventor, or
6 Mr. Pichler, so I'm interpreting here. But my
7 best interpretation here is that these are the
8 tools or equipment that is currently available at
9 the time in whatever setting we're discussing
10 here; and just a statement that spin coating and
11 barrier-layer sputtering are available options.

12 Q And this understanding that you're
13 providing, is that how you believe a POSITA would
14 interpret this email as well?

15 A Well, that's -- that's a tough one,
16 because this -- the intent is not stated
17 explicitly here. Obviously there's some
18 information that is known between the -- between
19 the email writer and the respondent here that
20 would not necessarily be known to a POSITA or just
21 a third-party reader.

22 I mean, it also appears that the

1 equipment that's available is compatible with
2 8-inch wafers, which is probably a limitation on
3 the tool set that's being referred to here.

4 So, but again I use the words "probably"
5 because there isn't sufficient detail here to
6 really be exactly sure what it is they're --
7 they're trying to communicate back and forth.

8 Q This message below it has something that
9 says, Original Message.

10 Do you see that?

11 A Yes.

12 Q It kind of looks like the top of an
13 earlier email.

14 Do you see that?

15 A I see the line, Original Message.

16 Q So the -- this email message from Pichler
17 that we've been discussing appears to be a reply
18 to an earlier message. Correct?

19 A That's hard to say. Possibly.

20 Q Have you seen the remainder of this email
21 chain?

22 A No. If there is any, I don't believe

1 I've seen it.

2 Q Okay. You referred to information that's
3 known between the email writer and the respondent
4 that would not necessarily be known to a POSITA.

5 What information were you referring to?

6 A Well, again, the email is describing
7 information that appears to be commonly held
8 between the writer of the email and the recipient.
9 And that common information is not available to a
10 POSITA. So it's a matter of trying to, you know,
11 interpret what is being said in the context of
12 equipment sets that are unknown to a POSITA beyond
13 what's stated in the email.

14 Q Do you, yourself, have any insights into
15 that, any of that information?

16 A Well, yes, I'm familiar with spin coating
17 and barrier and sputtering as thin-film deposition
18 processes. Certainly familiar with 8-inch wafers.
19 Generally displays aren't built on 8-inch wafers;
20 they're typically built on mother glass or larger
21 panels in manufacturing.

22 So, yeah, I'm familiar with some of the

1 concepts, but I'm certainly not familiar with the
2 specific equipment sets available at eMagin or,
3 you know, the facility that's -- is being
4 discussed here.

5 Q So you don't know exactly what's being
6 referred to in the discussion of equipment issues
7 with PML, then.

8 Is my understanding correct?

9 A I don't have a perfect understanding.
10 Again, all I can do is refer to the statements
11 being made in the email, that they clearly have a
12 organic spin-coating tool that's available to them
13 that's -- and it's compatible with 8-inch wafers.
14 And they also have a sputtering tool that is
15 compatible with depositing barrier layers.

16 Q And is it your understanding that those
17 tools are being proposed to avoid the equipment
18 issues with PML that are being referred to here?

19 A Well, that's what the email says. It
20 does reference avoiding many equipment issues with
21 PML.

22 Q Is that the interpretation that you think

1 a POSITA would have of this email?

2 A I think --

3 MS. ZHONG: Objection.

4 A -- a POSITA would probably interpret this
5 as there is a specific set of equipment or tools
6 that are available. And it's not a complete
7 equipment set that would allow for all potential
8 variations or alternatives for PML formation to
9 take place. It appears to be somewhat limited or
10 restricted tool set. And this is just being
11 referred to between the -- the two email
12 participants here.

13 Q And just looking at this first message at
14 the bottom of the screen with the time stamp 1:28
15 a.m., this message does not address anything
16 relating to selectively depositing, does it?

17 A Not specifically.

18 Q Why do you qualify that with the word
19 "specifically"?

20 A Well, again, there's understandings
21 between the email originator and the -- and the
22 recipient. There's -- would clearly seem to be

1 some common knowledge that's not being explicitly
2 referred to here. So it's really anyone's guess
3 as to what that common knowledge may be.

4 What we see here is they apparently have
5 some common knowledge about the tool set that's
6 being described and what processes are available.
7 There's no mention one way or the other about
8 selective deposition specifically.

9 Q Let's go to the next email. If we can
10 scroll up part way.

11 And this is a message from, is it
12 Frischknecht?

13 A Frischknecht, I would -- I would guess,
14 but ...

15 Q Frischknecht. Okay. And this email has
16 a time stamp of 11:26 p.m., as least the way it's
17 displayed on the screen. Correct?

18 A Yes.

19 Q And you have pointed to this email as
20 evidence of conception for selective deposition of
21 a planarization layer.

22 Is that correct?

1 A If you would like to point me to a
2 specific part of my declaration that discusses
3 that, or I can go find it, it would be helpful.

4 Q Okay. Are you able to answer the
5 question?

6 A I'm sorry?

7 Q I asked a question. I'm trying to
8 understand if you're able to answer it?

9 A I believe that to be true, although I
10 would like to refer to the -- my declaration.

11 Q Are you asking for it to be put up on the
12 screen or do you have access? If there is
13 something you need to review, please review --

14 A I was asking if you have a specific
15 reference from my declaration that you're
16 referring to.

17 Q I wasn't looking at your declaration.
18 But if you want to refer to something in there,
19 that's fine. Maybe I'll just ask an open-ended
20 question.

21 Are you using this email from
22 Frischknecht as part of the evidence on which you

1 relied for your conception opinions?

2 MS. ZHONG: To the extent counsel's
3 question is unrelated to the declaration, then I
4 object to the scope.

5 MR. GARR: The question is relating to
6 opinions that the witness is offering in this
7 matter.

8 MS. ZHONG: Okay. And the witness asked
9 you to point him to the specific passages in that,
10 and you said you did not --

11 MR. GARR: Wait. Wait. Wait. The
12 witness can answer the question himself, please.
13 Please, let's not do the speaking objections.
14 Thank you, Counsel.

15 MS. ZHONG: I'm not doing a speaking
16 objections. I'm just telling you why I'm
17 objecting to it.

18 MR. GARR: Okay. Please limit your
19 objection consistent with the trial practice
20 guide. I appreciate it.

21 MS. ZHONG: I -- well, the trial practice
22 guide also allows counsel to explain their

1 objections, so ...

2 MR. GARR: Not unless someone asks for
3 the basis.

4 MS. ZHONG: Okay.

5 A If I look at Page 77 of my declaration,
6 Paragraph 154.

7 Q Uh-huh?

8 A "In the email Inventor Pichler referenced
9 PML and LML, and discussed a nonselective
10 deposition technique involving spinning a
11 cross-linkable solution with subsequent
12 cross-linking and barrier layer sputtering. The
13 Inventor Frischknecht responded with proposals for
14 select" --

15 Q Can I -- I just want to make sure I
16 understand what we're talking about here in that
17 first sentence that you read.

18 "In the email, Inventor Pichler," what
19 message is that referring to?

20 A The original message at the bottom of
21 Page 1 that we were discussing moments ago.

22 Q Okay. Great. And, I'm sorry, you can

1 continue now.

2 A Continuing on. "Inventor Frischknecht
3 responded with proposals for selectively
4 depositing an acrylate layer, while keeping the
5 electrical pins free of the coating and masking
6 the areas for the scribe lines. Those selective
7 deposition techniques included vapor deposition
8 through a shadow mask, ink-jetting, screen
9 printing and/or spin-coating via a mask. Given
10 this context, a POSITA would understand that the
11 inventors were discussing selectively depositing
12 an organic planarization layer of the PML."

13 Q And this sentence that you just read,
14 which includes "the inventors were discussing
15 selectively depositing an organic planarization
16 layer of the PML," that relates to the middle
17 email we have on the screen from Inventor
18 Frischknecht. Correct?

19 A Yes.

20 Q And so your opinion is that this middle
21 email from Frischknecht discusses the selectively
22 depositing element with respect to planarization

1 layers. Correct?

2 MS. ZHONG: Objection. Form. Did you
3 say LML or PML?

4 MR. GARR: I think I just said
5 planarization layer.

6 A Could you repeat your question, please.

7 Q So you have a statement saying that a
8 POSITA would understand the inventors were
9 discussing selectively depositing an organic
10 planarization layer of the PML. Correct?

11 A Yes.

12 Q Does this middle email address
13 selectively depositing a barrier layer?

14 A I think the discussion in the email is
15 limited to the organic planarization layer.

16 Q Can you turn to Page 80 of your
17 declaration, which has a -- at least that's where
18 the top of a table is. Mapping of the ideas --

19 A Yes, I'm there.

20 Q -- against the elements of the asserted
21 claims. Right?

22 A I didn't understand that last statement.

1 Q There's a table that begins on Page 80.

2 Do you see that?

3 A Yes.

4 Q Okay. And the column on the left says
5 Element. That's referring to elements of the
6 challenged claims. Correct?

7 A Correct.

8 Q And so for Element 34[b], you're pointing
9 to evidence that is contained in the middle email
10 from Inventor Frischknecht. Correct?

11 A Yes.

12 Q And for Element 34[c], you are not
13 identifying any evidence for that element in the
14 email from Inventor Frischknecht. Correct?

15 A That's correct.

16 Q For Element 34[c], I believe you're
17 referring to the top email that we haven't
18 discussed in detail. Correct?

19 Is that right?

20 A I believe that's true. I'm not looking
21 at the top email at the moment.

22 Q Okay. Let's pull that up.

1 Okay. This is the top email on the
2 screen. It's got a time stamp, at least in this
3 printout, of 4:28 p.m.

4 Do you see that?

5 A Yes.

6 Q And it is from Inventor Pichler. Right?

7 A Correct.

8 Q And this is the email that contains the
9 information that you're pointing to as conception
10 evidence for Element 34[c]. Correct?

11 A Yes.

12 Q And the specific information you're
13 pointing to is provided, or at least summarized,
14 in the table under the row for 34[c]. Correct?

15 A Could you repeat your question, please?

16 Q The evidence that you're pointing to for
17 conception of Element 34[c] is the evidence that
18 you've excerpted into the table for the row
19 corresponding to Element 34[c]. Correct?

20 A Yes.

21 Q The email begins with "yes."

22 Do you see that?

1 A I do.

2 Q Do you understand what that "yes" is
3 answering?

4 A It's answering Frischknecht's previous
5 email, I believe.

6 Q And what -- what question in his email is
7 being raised?

8 A Could you scroll on down to
9 Frischknecht's email.

10 I believe it's in response to his
11 question at the end of Frischknecht's email
12 stating, "Any thoughts on masking for spin
13 coating?"

14 Q And this email begins by saying, "I have
15 also previously considered spin coating the
16 acrylate layer."

17 Is that correct?

18 A Yes.

19 Q And the acrylate layer here is the
20 organic layer that you're pointing to as the
21 planarization layer?

22 Is that right?

1 A Yes.

2 Q But this sentence goes on to say,
3 "However, I haven't yet thought up a reasonable
4 method for keeping the electrical pins free of
5 coating."

6 Do you see that?

7 A Yes.

8 Q And the email goes on to say -- or to
9 propose an approach of vapor deposition through a
10 shadow mask.

11 Do you see that?

12 A Yes.

13 Q And this is referring to an approach for
14 depositing the organic layer. Correct?

15 A Yes.

16 Q And is this email proposing vapor
17 deposition through a shadow mask as an alternative
18 to spin coating?

19 A Yes, it appears to.

20 Q How does -- how do those two deposition
21 approaches differ, spin coating versus vapor
22 deposition through a shadow mask?

1 A They use different tools, the principles
2 of deposition are different. The spin coat --
3 spin coating or casting uses a liquid material
4 to -- and a spinning substrate to disperse the
5 liquid across the substrate.

6 The vapor deposition through a shadow
7 mask is basically evaporation of the material to
8 be deposited and a mask placed between the source
9 and the substrate to try and mask the material
10 that's being deposited on the substrate.

11 Q And Inventor Frischknecht is suggesting
12 that vapor deposition may be preferable to spin
13 coating for this organic layer. Correct?

14 A He does state that "I anticipate that
15 vapor deposition through shadow mask will keep the
16 pins free of the coating."

17 I can't read anymore on my screen.

18 It's --

19 MR. GARR: Can we scroll down so we're
20 looking at the middle email, please. Thank you.

21 A Yes, that's I think the line most
22 pertinent to your question.

1 Q And the question -- well, at least as I
2 recall it, I could be wrong. The question I meant
3 to ask, at least, was whether vapor deposition was
4 being proposed by Frischknecht as an alternative
5 to spin coating here for the organic layer?

6 A Yes, he seems on some -- to some degree
7 to -- he states he's been quite partial to the
8 vapor-deposition method.

9 Q Okay. The next sentence says, "Also, I
10 am not too sure if scribing through the multilayer
11 is a good idea."

12 Do you see that?

13 A Yes.

14 Q Do you know what process that's referring
15 to?

16 A Probably -- well, the scribing is
17 relating to the separating of the displays, the
18 multiple displays.

19 Q Is Frischknecht proposing a way to
20 address that concern?

21 A Yeah, he proposes a selective deposition
22 to keep the, as he states in the next sentence

1 there, the area of the scribe lines, masking the
2 area of the scribe lines.

3 Q And this selective deposition that you're
4 referring to is vapor deposition through a shadow
5 mask?

6 A Yeah, in the context of his email, that
7 appears to be correct.

8 Q And that's -- that understanding is
9 supported by the remainder of this sentence, "I
10 anticipate that masking the area for the scribe
11 lines will be a good practice."

12 Is that a correct understanding of what
13 you're saying?

14 A Yes, I believe so.

15 Q The next sentence says, "Obviously
16 photolithography after cathode deposition (for a
17 lift-off technique) doesn't look very promising."

18 Do you see that?

19 A I do.

20 Q Do you know what that's being -- do you
21 know what that is referring to?

22 A It's I think stating his objection to

1 introducing photolithography processing in order
2 to accomplish the deposition or to avoid -- or to
3 clear the scribe lines in particular.

4 Q Is the photolithography here, is that a
5 selective deposition technique?

6 A Well, photolithography is a patterning
7 technique. It's not really a deposition
8 technique. It's a post-deposition technique that
9 allows you to create a pattern in a photoresist
10 layer and then remove it, either by etching it, or
11 he does mention lift-off as being an alternative
12 as well.

13 Q Towards the end of this email, the
14 inventor Frischknecht discusses printing
15 techniques as well.

16 Is that right?

17 A Yes.

18 Q And you're pointing to that as further --
19 as relating to selective -- as relating to another
20 process for selectively depositing the
21 planarization layer.

22 Is that right?

1 A Correct.

2 Q So the approaches that he is suggesting
3 for the organic layer here include vapor
4 deposition through a shadow mask, and printing
5 techniques, screen or inkjet. Right?

6 A Yes.

7 Q And then in the end of the email he says,
8 "Any thoughts on masking for spin coating?"

9 Do you see that?

10 A Yes.

11 Q What's your understanding of what's being
12 asked there?

13 A He's basically asking about how to use
14 spin coating in a selective manner.

15 Q And so masking is like -- is that
16 essentially using a shadow mask in connection with
17 spin coating?

18 A Well, not a shadow mask. Typically you
19 would use photoresist for a lift-off or some kind
20 of patterned layer that would block the liquid
21 that's being spin coated.

22 MR. GARR: Let's now go back up to the

1 top email, please, from Inventor Pichler 4:28
2 p.m., that begins with capital Y-E-S.

3 Q Do you see that?

4 A Yes. Uh-huh.

5 Q So is it your understanding that this
6 email is responding to the question at the end of
7 Frischknecht's email, at least in part?

8 A Yes, it appears to be.

9 Q And what is Inventor Pichler's response?
10 We could take it bit by bit.

11 He begins by saying, "There may be a
12 combination technique with spin coating that I
13 believe should work."

14 Do you see that?

15 A Yes.

16 Q What does "combination technique" signify
17 in this sentence?

18 A Well, he appears to be proposing a
19 technique where the spin coating is used for the
20 organic planarization layer deposition. And
21 then -- and then a sputtered barrier layer using a
22 mask, a shadow mask.

1 Q Okay. And this deposition of a
2 dielectric barrier through a shadow mask, you
3 point to that as evidence of conception for
4 Element 34[c], correct, the selectively depositing
5 a barrier layer limitation?

6 A Yes.

7 Q So sputtering the dielectric barrier
8 through a mask, your understanding is that's an
9 approach for selectively depositing the barrier
10 layer. Correct?

11 A Yes.

12 Q And what's the purpose for using this
13 selective deposition method for the barrier here?

14 A I think he states that in the third line
15 of his email where he says, "I.e., leave the
16 contact pads and scribe lines, et cetera, free
17 from the barrier film."

18 Q Okay. It then says, "and then stick the
19 whole thing in, for example, a plasma asher and
20 ash-off the organic where there is no dielectric
21 barrier film."

22 Do you see that?

1 A Yes.

2 Q Is that discussing this -- this ash-off
3 concept, is that an approach for patterning the
4 organic layer?

5 A In this case it appears he's suggesting
6 that the selective barrier film could be used
7 to -- as a mask for removing any unwanted
8 organic --

9 (Discussion off the record; technical
10 difficulty.)

11 A -- any organic planarization material.

12 Q So prior to this removing process that's
13 referred to here as ash-off, is the organic layer
14 patterned?

15 A It's not totally clear from this email.
16 Frischknecht in the previous email alluded to
17 using a selective UV cure process to provide some
18 selectivity in the deposition of the planarization
19 layer.

20 It's not quite clear from the context of
21 Pichler's email here whether the planarization
22 layer has been patterned during the cross-link and

1 cure process or during the coating process. It's
2 not entirely clear.

3 Q You referred to UV cross-linking.

4 Is that correct?

5 A Yes.

6 Q Are you saying that is discussed in the
7 middle email from Frischknecht, or are you
8 referring to something in the top email from
9 Pichler?

10 A Well, it's referred to I think -- and I
11 can't see the middle or the bottom emails here.

12 MR. GARR: Scroll down so the witness can
13 see those, please.

14 A Well, again, in the middle email the
15 closing question was, "Any thoughts on masking for
16 spin coating?"

17 So the question isn't in the context of
18 selective deposition of the organic planarization
19 layer. And to the extent that Pichler in the top
20 email is responding to that question, I think it's
21 in the context of selective deposition of the
22 organic layer.

1 MS. ZHONG: Counsel, we've been going --
2 we've been going for an hour and 20 minutes. If
3 you are done with this line of question, can we
4 take a break?

5 MR. GARR: When I'm done with this, we
6 can, yes. I have a few more questions.

7 MS. ZHONG: Okay.

8 Q Go back to the top email, please.

9 Around six lines down there is a sentence
10 that begins with the word "alternatively."

11 Do you see that?

12 A Yes.

13 Q This suggests an approach for, as the
14 email says, depositing the organic liquid layer,
15 and then do the UV cross-linking through a mask.
16 I skipped over some words.

17 But do you see that?

18 A Yes.

19 Q What is -- is this what you were
20 referring to a moment ago when you talked about UV
21 cross-linking?

22 A Yes. This is, again, looking at ways to

1 selectively deposit a organic planarization layer.

2 Q How does UV cross-linking through a mask
3 bear on selectively depositing an organic
4 planarization layer?

5 A Well, if you block the UV light and
6 prevent the cross-linking or curing of the
7 material, then it becomes a fairly straightforward
8 process to dissolve the noncross-linked material
9 and just wash it away.

10 Q Got it. So organic liquid is first
11 deposited, then a portion of it is cross-linked,
12 and then the remaining portion is removed. Is
13 that a high-level --

14 A Yes, I'd say that's a high-level
15 description, but it's accurate.

16 Q Would that approach qualify as
17 selectively depositing the organic planarization
18 layer?

19 A Yes, in the I think the agreed-upon
20 definition of selective deposition, it qualifies.
21 It's basically leaving the organic planarization
22 layer in this case in areas where it's needed or

1 desired, and it's not in the areas where it's
2 unwanted.

3 Q Okay. What about the -- or let me
4 just -- there seems to be two proposals for
5 depositing the organic layer in this email, at
6 least at a high level, as I understood your
7 testimony.

8 The first is the one that begins at the
9 first line that goes on to say, Spin, roll, or
10 whatever coat, cross-link here, sputter the
11 dielectric barrier. And then it goes on to say,
12 Ash-off the organic in certain places. Right?

13 A Yes.

14 Q And then the second approach is the one
15 that begins with the word "alternatively" that we
16 have been discussing here, that involves UV
17 cross-linking through a mask. Right?

18 A It does. The definition -- the
19 deposition is given option to just the previous
20 part of that same sentence. He refers to the
21 organic material either being flash evaporated,
22 spun on, roll coated, or whatever.

1 Again, allowing for multiple alternatives
2 on how to put down the organic planarization
3 material.

4 Q There -- I see what you're saying about a
5 lot of variations. Am I correct that at a high
6 level there are two approaches for patterning the
7 organic layer here; one is the ash-off the organic
8 where there is no dielectric barrier film, and the
9 other is the UV cross-linking through a mask?

10 Is that correct?

11 MS. ZHONG: Objection. Form.

12 A Yeah, there are multiple alternatives
13 that are being proposed in the -- in the email.
14 The one central theme in all of it is, though, is
15 how to make the depositions, whether it be the
16 organic material or the dielectric barrier
17 material, how to limit the deposition to areas
18 where it's desired and needed in the -- in the
19 fabrication process and avoid those materials
20 being deposited or left over areas where they're
21 undesired.

22 Q And with respect to the organic layer,

1 the approaches for patterning it involve, one,
2 ash-off the organic where there is no dielectric
3 barrier film; and, two, UV cross-linking through a
4 mask followed by a subsequent removal step? Just
5 trying to understand the approaches for achieving
6 the patterning that are being proposed here.

7 MS. ZHONG: Objection. Form.

8 A I think those are two of the ideas
9 that -- that Pichler is discussing. Although
10 he -- you know, he qualifies all of the -- these
11 various alternatives by stating these are just
12 undeveloped ideas, without really having thought
13 through them in detail.

14 So I think he's leaving it open to, you
15 know, continued development to define the -- you
16 know, an optimal way of selectively depositing
17 these materials, including the organic
18 planarization layer.

19 Q Understood. But in terms of the
20 approaches that this email does propose, are there
21 any suggestions for how to pattern other than the
22 ash-off and the UV cross-linking through a mask?

1 MS. ZHONG: Objection. Form. Misstating
2 the document.

3 A Can you ask the question again, please?

4 MR. GARR: Am I able to highlight the
5 document? This is a question for the tech.

6 A/V TECHNICIAN: I can give you control.
7 Do you want to, like, permanently highlight it, or
8 just for the questions themselves?

9 MR. GARR: I don't really care.

10 A/V TECHNICIAN: Okay. I can just give
11 you control and then you can highlight it
12 yourself.

13 MR. GARR: Okay.

14 A/V TECHNICIAN: All you have to do is
15 click on the screen. There you go.

16 MR. GARR: Great.

17 Q Okay, so I have highlighted two parts of
18 the document. The first highlighting is "ash-off
19 the organic where there is no dielectric barrier
20 film."

21 Do you see that?

22 A Yes.

1 Q That is an approach for patterning the
2 organic layer. Correct?

3 A It is. It's a nonphotolithographic means
4 of doing that.

5 Throughout much of this, what is fairly
6 obvious is that Pichler and Frischknecht are
7 desperately trying to avoid doing a
8 photolithography patterning step to -- to -- to
9 selectively deposit an organic and planar barrier
10 layer.

11 Q And the second portion that I have
12 highlighted reads, "UV cross-linking through a
13 mask."

14 Do you see that?

15 A Yes.

16 Q And that is a second approach for
17 patterning the organic layer. Correct?

18 A Yes.

19 Q Are there any other approaches for
20 patterning the organic layer discussed in this
21 email that don't fall into those two categories
22 that I've highlighted?

1 MS. ZHONG: Objection. Completeness.

2 Counsel, can you show -- can you please
3 show the witness the middle email to which
4 Dr. Pichler was responding to?

5 MR. GARR: Please do not interject here.
6 I am asking the questions.

7 A I was just about to --

8 MR. GARR: That's really -- I'm sorry,
9 Counsel, that's really inappropriate. You're
10 telling the witness where to look for his answers.

11 You know better than that.

12 MS. ZHONG: Counsel, you are not
13 providing witness with the whole document.

14 MR. GARR: He's welcome to ask -- stop
15 right now. If you want to continue this
16 conversation we'll go off the record and have the
17 witness leave.

18 I do not want this discussion in front of
19 the witness. You know that's inappropriate.

20 Q Please, Mr. Humphrey, if you need to see
21 something, you can ask for it.

22 A I was just going to say that in the

1 context of this email that is responding to the
2 question of spin coating and masking, yes, these
3 are the -- these are the methods that he is
4 specifically proposing in the context of spin
5 coating and masking the organic planarization
6 layer.

7 Q And these are -- these two things that
8 we've discussed that I've highlighted, ash-off the
9 organic where there is no dielectric barrier film,
10 number one; and number two, UV cross-linking
11 through a mask, these two approaches are different
12 than the vapor deposition through a shadow mask
13 that's proposed in the middle email. Correct?

14 A Yes. And different than the inkjetting
15 that is proposed in the first email, yeah.

16 MR. GARR: Okay. We can take a break
17 now.

18 (A recess was taken.)

19 BY MR. GARR:

20 Q Welcome back, Mr. Humphrey.

21 Did you have any conversations with
22 counsel during the break?

1 A No.

2 Q Can you turn back to your declaration,
3 Page 75, please. This is where you have a section
4 where you begin your section Roman numeral 9,
5 Conception. 9A, Conception.

6 Do you see that?

7 A Yes.

8 Q Okay. And as you summarize in the first
9 paragraph here, 149, you're offering opinions that
10 certain claims were conceived by February 8, 2001.

11 Right?

12 A Yes.

13 Q And the evidence for that, for conception
14 as of that date, is the email chain that we've
15 been looking at. Right?

16 A Yes.

17 Q Is this the first time you have offered
18 opinion testimony relating to the issue of
19 conception?

20 A No.

21 MS. ZHONG: Objection. Form.

22 Q Forgive me if I missed it, but your

1 declaration doesn't appear to include a legal
2 standards section.

3 Is that right?

4 A I believe that's true.

5 Q Do you have an understanding as to what
6 it means to conceive of an invention?

7 A Probably not in the strictest legal
8 sense.

9 Q And you don't have an indication here of
10 what the standard is that you used to determine
11 whether something was conceived.

12 Is that right?

13 A Again, no, not a legal standard.

14 MR. GARR: I'd like to introduce an
15 exhibit, please. I think this is -- this is the
16 new exhibit that my colleague has shared with the
17 tech team.

18 If we could mark that and distribute it,
19 I'd appreciate it.

20 (Exhibit 1026 marked for identification
21 and is attached to the transcript.)

22 Q Okay. So, Mr. Pichler, I believe we just

1 shared, or the team running this deposition has
2 just shared, an exhibit that's being marked
3 Exhibit 1026.

4 Do you see that?

5 A I do. Let me --

6 MR. GARR: Can I ask this exhibit to have
7 the exhibit stamp on it.

8 A I'll have to save it and open it.

9 Q Sure. Okay. It's also been put up on
10 the screen.

11 Mr. Humphrey, you're not a lawyer, are
12 you?

13 A No, I'm not.

14 Q And I don't intend to -- I intend to keep
15 my questions focused on your declaration. I'm not
16 trying to bring in law for you here. But this is
17 an exhibit we've marked that is a legal decision
18 from the Court of Appeals from the Federal Circuit
19 called Burroughs Wellcome versus Barr Labs.

20 Do you see that?

21 A Yes.

22 Q And I will represent to you that this is

1 a case that's been cited hundreds of times in
2 other legal decisions. I'm not going to ask you
3 to opine on whether it's good or bad law or
4 anything like that. But it has some language
5 talking about the standard of conception, and I'd
6 like to understand if that's consistent with
7 your -- the way that you have applied the term.

8 MR. GARR: So I'd like to turn to Page 4
9 of the document, if that could be done, please.
10 And there's some language that's been highlighted.
11 We can zoom in.

12 Q Well, you can read as much of this as you
13 want. The stuff I'm going to ask you about is in
14 yellow. And just generally I want to understand
15 if these -- you know, knowing that you're not a
16 lawyer, if these line up with the way you've
17 analyzed the issue of conception.

18 So I can wait for you to take a look at
19 it if you want, or I can go ahead and get into the
20 questioning.

21 A Let me read your highlighted text.

22 MS. ZHONG: Can you blow it up a little

1 bit? It's a little bit difficult for me to read.

2 MR. GARR: No, I agree with that. I
3 might want to scroll down because the highlighting
4 begins on Column 1 or whatever. Yeah.

5 A Okay, I am done with that highlighted
6 portion.

7 Q Okay. We're now on the column on the
8 right side of Page 4.

9 A Okay, I have read the highlighted
10 portions.

11 Q Okay. So in the first full paragraph on
12 the right side of Page 4 is a sentence that reads,
13 "Thus, the test for conception is whether the
14 inventor had an idea that was definite and
15 permanent enough that one skilled in the art could
16 understand the invention."

17 Do you see that?

18 A Yes.

19 Q Is that generally consistent with the
20 understanding that you applied in assessing
21 whether the Pichler email provides evidence of
22 conception?

1 A Yes, I believe so.

2 Q Do you believe the Pichler email is
3 sufficient for a POSITA to understand the
4 invention of the claims listed in Paragraph 149 of
5 your declaration?

6 A Yes. But -- yes.

7 Q And your declaration, starting at
8 Paragraph 149 and going through the table that we
9 looked at that spans through Page 83, includes
10 your -- or captures your analysis of that email.

11 Correct?

12 A Yes, I believe that's true.

13 Q And you provide a number of conclusions
14 as to what the email would signify. Correct?

15 A Yes.

16 Q And do you believe that a person of skill
17 in the art, looking at the Pichler email, would
18 reach those conclusions?

19 A Yes.

20 Q So you analyzed this from the perspective
21 of what the email would disclose to a POSITA?

22 A Correct.

1 Q Paragraph 150 includes some of your
2 assessment of the term "PML" in the email chain.

3 Right?

4 A Yes.

5 Q And you offer opinions about how the term
6 "PML" would have been understood by the inventors.

7 Right?

8 A Yes.

9 Q And as evidence of that, you point to the
10 disclosure of the '389 patent. Correct?

11 A Yes, I reference a couple of excerpts
12 from the '389 patent. Yes.

13 Q Do you believe a POSITA, looking at the
14 Pichler email, would have the same understanding
15 of what the term "PML" signifies as you put
16 forward in Paragraph 150?

17 A Yes, I believe so.

18 Q The only evidence you cite for this
19 understanding is the '389 patent.

20 Is that right?

21 A I'm not sure I understand the nature of
22 your question.

1 Q In terms of -- you have provided opinions
2 as to what the term "PML" would signify. Right?

3 A Yes. And I also agreed that PML is an
4 acronym that was known in the art prior to --
5 prior to the '389 patent.

6 Q Right. But do you cite anything other
7 than the '389 patent as evidence of what -- how
8 the term "PML" would be understood at the time?

9 A Certainly not in this paragraph.

10 Q I don't believe you do it anywhere in
11 your declaration, but if I missed it let me know.

12 Do you have a reason to think I'm wrong
13 about that?

14 A I'd have to do a search on PML. I don't
15 remember the -- all of the references that were --

16 Q You should have access to the PDF.

17 A Yeah, I do.

18 Q Yeah. Could you go ahead and do that,
19 please.

20 A Sure. I'm showing 24 references, so give
21 me a minute to just get through them.

22 Q Sure.

1 A Well, I reference on Page 62 -- oh,
2 sorry, that looked like a Ghosh reference, but I
3 guess it's -- it's also referencing the '389
4 patent.

5 The only references I see for PML are
6 either to the '389 patent or the emails exchanged
7 in February between the inventors, February of
8 2001.

9 Q Okay. So in terms of how a POSITA at the
10 time of the email exchange would have understood
11 the term "PML," the only evidence that you point
12 to is the '389 patent. Correct?

13 A And the emails between the inventors
14 preceding the patent application.

15 Q Right. I'm asking about that email
16 exchange itself, the one in February 2001.

17 A Yes.

18 Q My question is, a POSITA at the time of
19 that email exchange -- or I guess the issue that
20 I'm asking about is how a POSITA at around the
21 time of the email exchange would have understood
22 the term "PML"?

1 A Oh, well, it's a common term. It's in
2 the literature and it's commonly used prior to the
3 inventors' conception, or the '389 patent. So a
4 POSITA would have seen that acronym and that
5 reference used in any number of technical articles
6 and -- and, you know, on the subject of thin film
7 encapsulation.

8 Q You haven't identified any such evidence,
9 have you?

10 A No. But I haven't included any evidence
11 of what sputtering or spin coating or what shadow
12 masking is either, because these are also commonly
13 used terms that a POSITA would be familiar with.

14 Q Okay. In Paragraph -- in Paragraph 150,
15 the last sentence, in the last sentence of
16 Paragraph 150 you write that the inventors
17 understood PML structures as typically including a
18 planarization layer.

19 Do you see that?

20 A Let me scroll to 150 here.

21 Yes.

22 Q "Typically" doesn't mean always.

1 Correct?

2 A Oh, no, not -- not always.

3 Q Okay. So are you -- but you point to the
4 disclosure of the references to PML as indicating
5 that the inventors had conceived of an
6 encapsulation method that involved a planarization
7 layer. Correct?

8 A Yes.

9 Q But at the same time you're acknowledging
10 that not all PML structures include a
11 planarization layer. Right?

12 A Well, the term "planarization" can be
13 interpreted different ways. And, frankly, the
14 number of materials and combinations of materials
15 that were being researched at the time was quite
16 large. So there -- there are a very large number
17 of variations on PML structures that were
18 published and had been -- were under development
19 at the time of the invention.

20 Q And not all of them involved a
21 planarization layer or something that would
22 qualify as a planarization layer vis- -vis the

1 '389 patent claims.

2 Is that right?

3 A Well, I think that is subject to
4 interpretation. That depends on your definition
5 of a planarization layer.

6 Q Okay. But there is a construction of a
7 planarization layer that you've applied in this
8 case. Right?

9 A Yes.

10 Q And at the time of the 2001 email
11 exchange, would a POSITA have understood a PML as
12 necessarily including a planarization layer that
13 satisfies that construction?

14 MS. ZHONG: Objection. Form.

15 A I think a POSITA would have understood
16 the basic function of the planarization layer.
17 They certainly, you know, would not have known the
18 court-specific definition, whether it be in
19 district court or by the Board, by the PTAB
20 Boards, they wouldn't have known that specific
21 definition perhaps. But they would certainly
22 understand that the purpose of the alternating

1 organic and inorganic layers were to provide a --
2 a moisture and oxygen barrier, environmental
3 barrier, to protect the OLED devices.

4 Q In Paragraph 154 you have a statement
5 that a POSITA would understand -- this is the
6 fourth line down -- that the inventors were
7 discussing "selectively depositing an organic
8 planarization layer of the PML."

9 Do you see that?

10 A Yes.

11 Q And that's your opinion. Right?

12 A Yes.

13 Q When you referred to "an organic
14 planarization layer" in that statement, do you
15 mean an organic planarization layer that would
16 qualify as -- under the '389 claims as a
17 planarization layer?

18 If that question was a little unclear I
19 can rephrase, but ...

20 A Yeah, please do.

21 Q Okay. Planarization layer has a
22 construction that you have applied in your

1 opinions here. Right?

2 A Yes.

3 Q It's discussed in your claim construction
4 section. Right?

5 A Yes.

6 Q Were you using that interpretation of
7 planarization layer in this sentence about what a
8 POSITA would understand from the email exchange?

9 A Well, again, I'm unsure as how to answer
10 that question. I'm not sure exactly what you're
11 getting at there.

12 I acknowledge that the POSITA would
13 obviously not be familiar with the definition
14 arrived at by the parties or the board during
15 claim construction. They wouldn't have known the
16 specifics of that. So a POSITA wouldn't have
17 applied that specific definition.

18 But in general, yes, it was known that
19 the PML structure generally involved a -- an
20 organic material or layer that provided some
21 degree of flattening, smoothing, or planarization
22 of the substrate.

1 Q Why did you qualify your answer with the
2 word "generally"?

3 A Oh, only because I can't speak for every
4 POSITA. The vast majority of POSITAs would know
5 that. I can't speak for the knowledge of every
6 single POSITA out there, but ...

7 Q Well, we're talking about a hypothetical
8 POSITA here. Right?

9 A A hypothetical POSITA definitely would
10 have understood --

11 Q In your opinion, sir, from the
12 perspective of what a hypothetical POSITA who
13 qualifies as a POSITA would understand from --
14 with respect to the issues that you're discussing.
15 Right?

16 A Yes.

17 Q And that hypothetical POSITA, which we
18 would just call a POSITA, I believe, you are
19 offering the opinion, I believe, that when the
20 POSITA looks at the email exchange and Inventor
21 Pichler's email in particular that you are
22 discussing here in Paragraph 154, your opinion is,

1 am I correct, that a POSITA would understand this
2 PML structure to include a planarization layer.

3 Right?

4 A Yes.

5 Q And your definition of planarization
6 layer requires that the material serve the
7 function of planarizing. Right? If we can go to
8 Paragraph 24, that's where you provide the
9 definition.

10 A I'm moving there now.

11 Q There's a few paragraphs where you
12 discuss this.

13 The discussion begins at Paragraph 19.

14 Right.

15 A I don't believe a POSITA would have any
16 objection to -- to our definition of planarization
17 layer.

18 Q Right. But I don't think the question is
19 what the -- how the POSITA -- well, strike that.

20 The question when you're assessing a
21 prior art reference, for example, and you're
22 assessing whether that prior art reference

1 satisfies the planarization layer requirement,
2 your analysis has applied this definition of
3 planarization layer. Right?

4 A Yes.

5 Q And in assessing whether a reference
6 discloses a planarization layer consistent with
7 the challenged claims, you are analyzing whether
8 that reference teaches something that satisfies
9 this definition. Right?

10 A Could you repeat the question, please?

11 Q So you're looking at a prior art
12 reference and analyzing whether that reference
13 discloses a planarization layer. Right? Take
14 Yamazaki, for example.

15 That's one of the references you
16 analyzed. Right?

17 A Yes.

18 Q And you provide opinions as to whether
19 Yamazaki teaches a planarization layer. Right?

20 A Yes.

21 Q And in forming your conclusion, you were
22 applying this definition. Right?

1 A Yes.

2 Q So you are assessing whether a POSITA
3 would think Yamazaki discloses in this
4 hypothetical a planarization layer as set forth in
5 Paragraph 19. Right?

6 A Paragraph 19?

7 Q That's just the construction.

8 A Yes, I believe that's consistent with
9 what a POSITA would -- would interpret the
10 communications that we're referring to.

11 Q So going back to the email exchange from
12 February 2001. Right?

13 A Correct.

14 Q The question that you were analyzing is
15 whether the inventors conceived of the claimed
16 invention. Right?

17 A Yes.

18 Q And that claimed invention includes a
19 planarization layer requirement. Right?

20 A I'm sorry, I missed the first part of
21 your question.

22 Q The Claim 34, for example, requires a

1 planarization layer. Right?

2 A Yes.

3 Q And so part of your assessment of that
4 email -- of that email exchange is whether it
5 would indicate that the inventors had conceived of
6 an approach that involves a planarization layer.
7 Right?

8 A Yes.

9 Q And in making that assessment, it needs
10 to qualify as a planarization layer as construed
11 here. Correct?

12 A I believe that's true.

13 Q And your opinion is that somebody looking
14 at the Pichler email would conclude that Pichler
15 was referring to an encapsulation method that used
16 a planarization layer. Right?

17 A Yes; the email exchange refers to PML, as
18 we've, you know, previously noted. And that
19 already indicates to a POSITA that an organic film
20 used for planarization is included in the -- in
21 the discussion.

22 Q Does the -- do all PMLs include a

1 planarization layer that meets the construction in
2 Paragraph 19?

3 MS. ZHONG: Objection. Form.

4 A In conception I believe yes.

5 Q Why is that?

6 A Because that is known to be a function of
7 polymer multilayers, and in relation to thin-film
8 encapsulation.

9 Q So if a POSITA at the time of the email
10 exchange sees some reference to a PML structure,
11 would that POSITA conclude that the PML structure
12 necessarily includes a planarization layer that
13 satisfies Paragraph 19's construction?

14 MS. ZHONG: Objection. Form.

15 A I believe a POSITA would have understood
16 the PML organic layer as discussed by the
17 inventors to be consistent with the definition
18 that we're applying here.

19 Q Look at Paragraph 25.

20 A Paragraph 25.

21 Q Do you see that?

22 A Almost there.

1 Yes.

2 Q Okay. So you state that you agree with
3 the construction of planarization layer that's
4 been discussed. Right?

5 A Yes.

6 Q And then you say you apply that
7 construction in Section 6, Roman numeral 6 below.
8 Do you see that?

9 A Yes.

10 Q Why -- I'm not understanding why you tie
11 your application of this construction to only
12 Section 6. What's going on here? I was just
13 confused reading this.

14 A I think that reference is only there
15 because Section 6 is the section that -- where
16 planarization is discussed more than the other
17 sections of the -- of the declaration.

18 Q But Section 8, for example, addresses
19 obviousness based on Weaver. Correct?

20 A Yes.

21 Q And your opinions vis- -vis Weaver
22 include opinions about whether or not Weaver

1 teaches the planarization layer element. Right?

2 A What page are we on here?

3 Q I was just looking at the table of
4 contents. But you can go to Paragraph 115, which
5 is where your section on Weaver begins.

6 A Well, yeah. Yeah, this -- this
7 discussion over Weaver includes the substrate
8 encapsulation, and really focuses primarily on
9 substrate encapsulation, which is a -- a different
10 application than the thin-film encapsulation that
11 the rest of the references would generally talk
12 about in terms of planarization.

13 So there's no -- there's no real reason
14 why only Section 6 was denoted there other than
15 Section 6 deals more primarily with the
16 planarization aspect of the thin-film
17 encapsulation.

18 Q But with respect to Weaver in particular,
19 your assessment of whether it discloses a
20 planarization layer hinges on whether it discloses
21 a layer that meets the construction discussed in
22 your claim construction section, doesn't it?

1 A Yeah, I -- Weaver doesn't mention, as
2 I've stated here in the paragraph 115 that you
3 just referenced, I state, Neither Samsung nor
4 Dr. Subramanian analyzes whether Weaver's layer
5 enables or disables the propagation of defects
6 from one layer to another to be interrupted as
7 required under the parties' agreed-to
8 construction. See the petition reference. Nor
9 does Weaver mention defects.

10 So that particular aspect of the
11 planarization layer is not referenced in Weaver.

12 Q Right. So but just to put it in plain
13 terms, you were applying the claim construction of
14 planarization layer in your opinions with respect
15 to Weaver. Right?

16 A Yes.

17 Q So in Paragraph 25 when you say you've
18 applied the construction in Section 6, that's
19 incomplete. Right? You've applied it at least in
20 some other sections?

21 A Yes.

22 Q Are there sections in which you apply a

1 different interpretation?

2 A No.

3 Q And did you apply that construction in
4 your opinions vis- -vis conception?

5 A Yes.

6 Q So this statement at the end of Paragraph
7 25 that says that your analysis in the other
8 sections is not impacted by the specific
9 construction of planarization layer, that's --
10 that's inaccurate. Correct?

11 A I'm sorry, where are you reading from?

12 Q Paragraph 25.

13 A Yeah, I think that is just stating that
14 the specific construction isn't going to change
15 the -- my analysis of any of the rest of the
16 document.

17 Q Is that true for Weaver?

18 A I think maybe it might be more accurate
19 to say that my conclusions are not impacted by the
20 specific construction of planarization layer.

21 Q I'm just confused by this. Because I'm
22 looking at your analysis for Weaver in Paragraphs

1 115 and 116 and 117. And it seems to be entirely
2 based on the parties' agreed-to construction. I'm
3 not seeing any analysis that's more general or
4 would apply under a different interpretation.

5 A Well, I do reference in Paragraph 115 the
6 agreed-upon definition of planarization layer.

7 Q Right. And your analysis -- the only
8 analysis you provide is with respect to that
9 construction. Right?

10 A Well, I do reference it in the analysis.
11 But as I state in Paragraph 116, Weaver actually
12 follows the topology of the underlying layers, and
13 that is a general definition of planarization,
14 certainly not restricted to the agreed-upon
15 definition or construction by the parties. That's
16 an observation of the -- of the Weaver invention
17 itself.

18 Q And Paragraph 16 is expressly quoting the
19 construction and invoking it by saying it does not
20 meet the requirement of the, as you say in 116,
21 agreed-to construction. Again, it seems to be
22 entirely based on whether -- based on an

1 application of that construction.

2 A No. I think I've just added that to --
3 as a supporting -- as a supporting argument.
4 Because as I stated in the first part of that
5 sentence, Weaver's invention follows the topology
6 of the underlying layers. And that's just a
7 general reference to planarization layers,
8 generally speaking. That's not specific to the
9 agreed-upon construction.

10 Q In Paragraph 115 you acknowledge Weaver
11 describing its planarizing material as, quote, "A
12 material that forms a smooth planar surface upon
13 application, rather than forming a surface that
14 reflects irregular contours of the underlying
15 surface."

16 Right?

17 A Yes.

18 Q And that would be commonly understood as
19 serving the function of planarization. Right?

20 A That is one aspect of planarization.
21 That does not address the overall topology.

22 Q What's the difference between topology --

1 sorry.

2 What do you mean by that?

3 A Can you clarify the question?

4 Q What is topology?

5 A A generally accepted definition would be
6 the smoothing or planarizing of substrate
7 topology.

8 Q Topology meaning --

9 A The step.

10 Q -- the shape of the underlying surface?

11 A Yes. The -- the variation in the
12 underlying substrate, and particularly the
13 vertical and spatial variances in the underlying
14 structures.

15 Q And a planarization layer needs to
16 flatten those out?

17 A To some degree, yes.

18 Q To make more of a smooth planar surface?

19 A Yes. And this is why it's difficult to
20 exactly define planarization, because there's a
21 degree of planarization.

22 There can be a very mildly planarizing

1 application. There can be, you know, localized
2 planarization, regional, global planarization of
3 the substrate, depending on the extent and the
4 degree to which the, you know, planarizing layer
5 achieves, you know, complete planarization of the
6 underlying structures.

7 Q The construction doesn't require complete
8 planarization layer -- complete planarization,
9 does it?

10 A The construction requires not reproducing
11 the underlying topology.

12 Q Okay. And irregular contours of a
13 surface would be a type of topology. Right?

14 A Surface roughness generally would not be
15 associated with planarization.

16 Q Why is that?

17 A Planarization generally refers to more of
18 the flattening or -- of underlying structures, not
19 as much surface roughness. Because if you get
20 down to a microscopic or atomic scale, there's
21 always some degree of roughness. But it's
22 generally not -- not considered a surface that

1 requires planarization.

2 Q When Weaver discusses irregular contours
3 of the underlying surface, there's no limitation
4 to what irregularities are being discussed there,
5 is it? Is there?

6 A I'm not sure I understand your question.

7 Q I asked you a question about this excerpt
8 from Weaver that you have in Paragraph 115.

9 A Okay.

10 Q Where it discloses that its planarizing
11 material is something -- is material that forms a
12 smooth planar surface rather than reflecting
13 irregular contours of the underlying surface.

14 Right?

15 A Yes.

16 Q And I asked you about that. And you said
17 something about roughness being different from
18 topology. Right?

19 A Yes.

20 Q But Weaver doesn't say it's just
21 roughness; it says irregular contours. I'm trying
22 to understand where this roughness limitation

1 comes from in terms of how you interpret this
2 disclosure.

3 A I think it's probably best to refer to
4 Paragraph 116 and the figure shown there. In that
5 the successive layers labeled 122A, 121B, and 122B
6 are replicating the -- the underlying structure of
7 label 121A.

8 Q This is a schematic figure. Right?

9 A It's a figure from the Weaver reference.

10 Q Do you understand it to be a schematic
11 figure?

12 A It's a -- yeah, it's an illustration.

13 Q Do you understand it to be a schematic
14 illustration?

15 A Define --

16 MS. ZHONG: Object to form.

17 A -- "schematic."

18 Define "schematic," please.

19 Q Do you have an understanding of what that
20 means?

21 A I don't understand what -- the context in
22 which you're using "schematic." It's a

1 representation.

2 Q Wikipedia for schematic begins by saying,
3 "A schematic or schematic diagram is a design
4 representation of the elements of a system using
5 abstract graphic symbols rather than realistic
6 pictures."

7 A Okay. This is a graphic representation.
8 It's not a photograph, or it's not an SEM
9 cross-section --

10 Q It is not to scale, either?

11 A -- representation.

12 Q It's not to scale, either?

13 A Not necessarily.

14 Q And its shapes don't necessarily line up
15 with the actual shape of the product itself. It
16 doesn't show all the details of that. Correct?

17 A Yeah, I don't know how to answer that,
18 other than it's -- should be graphically
19 representative. It may not be to scale, but it
20 should be representative.

21 Q Back to the construction which you
22 discuss beginning on Paragraph 19.

1 Are you there?

2 A I'm heading there.

3 Q It's a good start.

4 A Okay, I'm at 19.

5 Q Awesome. Does this construction require
6 a particular quantitative degree of planarization?

7 A Quantitative, no.

8 Q Does it require a particular thickness?

9 A No.

10 Q You also offer a discussion of -- well,
11 let me just stop for a second. I was going to
12 move to a new section. Probably be at least
13 another half hour.

14 Are you okay to keep going, or do you
15 want to take a break now?

16 A Speaking of quantitative, what's --
17 what's at least a half an hour? What's the upper
18 end on that?

19 Q I don't know. Less than an hour, but I
20 don't know.

21 A Okay. If we can do it in less than an
22 hour, let's go for it.

1 Q Okay. So you also offer a claim
2 construction discussion regarding selectively
3 depositing. Correct?

4 A What paragraph are we on now?

5 Q You address the interpretation of the
6 term "selectively depositing." Right?

7 A Yes, I think you're referring to Section
8 B and Paragraphs 26 through, what, probably 29?

9 Q Right. Right. Okay.

10 And you call this, at least in some
11 places you refer to this as Samsung and
12 Dr. Subramanian's construction.

13 That's from Paragraph 29. Right?

14 A Yes.

15 Q Just trying to come up with a terminology
16 so I can refer to that. Okay. Thanks.

17 And you say that you've applied that
18 construction for at least some of your opinions.

19 Correct?

20 A Yes.

21 Q But at the same time you've commented
22 that you disagree with the position that's in

1 Paragraph 28. Right?

2 A That's correct.

3 Q Okay. So you don't think it's the
4 correct construction, but you are applying it
5 nonetheless?

6 Is that a correct interpretation of what
7 you're saying?

8 A My understanding is that the -- that that
9 is the discretion of the petitioners to define --
10 define terms such as "selectively depositing."

11 Q So that that is a yes to the question,
12 though. Correct?

13 You are applying that definition even
14 though you believe it to be incorrect?

15 A Yeah, I'm -- I'm considering it in my
16 analysis. Yes.

17 Q Well, not just considering it; you're
18 requiring it in your analysis. Right?

19 A Could you rephrase the question?

20 Q Well, I -- sometimes we talk -- we've
21 been talking about applying a definition. Right?
22 Like using that definition to form your

1 conclusions. Right?

2 A Yes.

3 Q So does the prior art teach this element.
4 You're applying a particular interpretation of
5 such element. Right?

6 Anyway, I'm just saying this is the
7 concept of applying the construction. Right?

8 A I've certainly considered, as I state
9 here in Paragraph 28, Dr. Subramanian has taken a
10 position selectively depositing means that the
11 material is deposited where you want it and won't
12 be where you don't, so that you don't need to do a
13 subsequent removal step to remove it from unwanted
14 regions.

15 And, yes, I have applied that to -- in my
16 analysis.

17 Q Okay. I was just asking these questions
18 because you sort of switched to the word
19 "considering," and I was trying to understand if
20 there was some distinction you were drawing
21 between "considering" and "applying."

22 A My only distinction is what I -- what I

1 stated in the -- further down in this paragraph,
2 that I disagree with this position, as selective
3 depositions can often leave small quantities of
4 unwanted material that need -- need to be removed.
5 But that's --

6 Q In forming your conclusions as to whether
7 the prior art teaches this element, you have used
8 Samsung and Dr. Subramanian's construction, as you
9 characterize it?

10 A Yes.

11 Q Or as you label it?

12 A Yes.

13 Q And I am going to ask you a similar set
14 of questions about the fact that this Paragraph 29
15 says that the -- that you've applied the
16 construction specifically in Section Roman numeral
17 7.

18 Do you see that?

19 A I do.

20 Q Why are you applying it only in Section
21 7?

22 A Again, I think it's the same rationale as

1 in the planarization layer application. That's
2 where it comes into play most specifically, is in
3 the Section 7. However, it may also show up in
4 other places as well.

5 Q How does it come into play in Section 7?

6 A Well, Section 7 is referring to Claims 41
7 to 46 in particular.

8 Q Right.

9 MR. GARR: Can we turn to that section,
10 Page 46, please.

11 Q In what sense is that construction
12 particularly applicable to Section 7, relating to
13 Claims 41 through 46?

14 A I think the issue of cleanup, or post
15 selective deposition cleanup, are a focus in
16 Section 7.

17 Q More so than other sections?

18 A I don't know the answer to that. I
19 haven't tried to -- to quantify that.

20 Q Do you discuss the selectively depositing
21 construction anywhere in Section 7? I mean, I
22 didn't see it. You can word search it, if you'd

1 like.

2 A This could take a while.

3 There are -- I'm seeing 191 references
4 here, so ...

5 I'm getting close, though.

6 Q No problem.

7 A Okay. I guess I'm only seeing the one
8 reference in Paragraph 97 to selected spots.

9 Q What do you mean by "selected spots"? I
10 didn't follow that.

11 A In reference to the Fujimori magnetic
12 mask reference in Paragraph 97, I'm noting that
13 the electromagnet to secure the magnetic mask --
14 the electromagnet would affect the trajectory of
15 the charged particles to be deposited on the
16 substrate, and there is no indication that the
17 resulting combined forces could be controlled to
18 reliably deposit the cover layer to the selected
19 spots.

20 Q Okay. This paragraph doesn't refer to
21 the construction or invoke it, does it?

22 A Well, it's referring to how the use of

1 the Fujimori (indiscernible) could adversely
2 affect the deposition material in these selected
3 spots.

4 Q And so what you're saying now is that the
5 construction of selectively depositing is
6 implicitly part of your opinion in Paragraph 97?

7 A Yes, the -- Dr. Subramanian's definition
8 is implicit in this. Yeah.

9 Q So you don't have any explicit references
10 to the claim construction in Section 7. Correct?

11 A I don't think so.

12 Q But you do explicitly reference the
13 construction in your analysis of other prior art.
14 Correct?

15 A Yes.

16 Q So what to make of Paragraph 29 in light
17 of that?

18 A It actually may be a typo, so I
19 apologize.

20 I don't know that there's a great deal of
21 significance to the reference to Section 7
22 independent of the other sections.

1 Q So you applied this construction more
2 generally than just in Section 7?

3 A Yes, that's correct.

4 Q And did you apply this construction in
5 your analysis of conception?

6 A Yes.

7 Q In Paragraph 51 of your declaration you
8 discuss the reference Ghosh. Could you please
9 turn there.

10 A Okay, I'm there.

11 Q And you quote some of the -- and excerpt
12 some of the prosecution history vis- -vis the
13 Ghosh reference. Right?

14 A Yes.

15 Q So below Paragraph 51 is an excerpt of
16 arguments raised by the inventors during
17 prosecution. Right?

18 A Yes. It's correspondence between the
19 patent examiner and the applicants. Yeah.

20 Q And in the next paragraph you point out
21 that the examiner apparently agreed with the
22 inventors. Right?

1 A Yes, as I state in 52, the examiner
2 apparently agreed with the inventors and withdrew
3 the rejections based on Ghosh.

4 Q Do you believe the examiner was right to
5 do so?

6 A Yes.

7 Q So you believe that Ghosh does not
8 disclose selective deposition of a barrier layer.

9 Is that right?

10 A I'm sorry, are you waiting on me?

11 Q Oh, yes. I thought there was --

12 MR. GARR: Could someone read the
13 question, then.

14 (Pending question read.)

15 A Repeat that one more time, because I
16 think that's -- I think I answered that question.
17 But go ahead.

18 Q I'll just ask it in an open-ended way.

19 Do you believe Ghosh discloses selective
20 deposition of a barrier layer?

21 A No.

22 Q In Paragraph 51, just before pasting in

1 this prosecution history, you note that Ghosh does
2 not disclose selectively depositing at least one
3 barrier layer over said planarization layer that
4 is deposited upon said devices, and you emphasize
5 plural there. Right?

6 A Which paragraph are you referring to?

7 Q Fifty-one.

8 A Oh, okay.

9 Yes, I see that.

10 Q Why are you stressing plural in this
11 paragraph?

12 A To distinguish it from an individual.

13 Q And you say the inventors pointed this
14 out during prosecution. Right?

15 A Yes, I refer to a statement made in the
16 Office Action.

17 Q How does this statement in the Office
18 Action relate to the plural aspect of the upon
19 said devices claim element?

20 A I think the use of plural here is just
21 referring to Paragraphs 53 and 54 below, and 55.

22 Q Does the prosecution history provide

1 support for that, those aspects of your --

2 A No. No. In this case I don't think
3 plural is relating directly to the prosecution
4 history excerpt.

5 MR. GARR: I think we can take our break
6 now.

7 (A recess was taken.)

8 BY MR. GARR:

9 Q Welcome back, Mr. Humphrey.

10 A Thank you.

11 Q Could you please turn to your
12 declaration, Paragraph 150. Let me know when
13 you're there.

14 Are you there?

15 A I am there now.

16 Q Okay. I think we've talked a little bit
17 about this part of your declaration already. But
18 Paragraph 150 is a place where you start talking
19 about how the term "PML" would have been
20 understood. Right?

21 A Yes.

22 Q And you cite to the '389 patent as saying

1 PML is the abbreviation for polymer multilayer
2 which comprises alternating and repeating layers
3 of an organic, usually acrylate or the like, and a
4 barrier layer.

5 Do you see that?

6 A Yes.

7 Q Does Weaver satisfy that definition?

8 MS. ZHONG: Objection. Form.

9 MR. GARR: And if we haven't already, can
10 I bring Exhibit 1008 into the deposition record.
11 That's the Weaver document that I just asked
12 about.

13 (Exhibit 1008, previously marked, not
14 attached.)

15 MR. GARR: And ask that it be put up on
16 the screen.

17 And can I direct you to or ask you to
18 bring up, please, Paragraph 52 and zoom in on
19 that. Can you make it a little bigger, please.

20 Q Mr. Humphrey, I want to just direct you
21 to the discussion in Paragraph 52 that may bear on
22 the question.

1 A Well, I was looking at Paragraph 117 in
2 my declaration, and it discusses how the
3 planarizing layer 121A in Weaver is following the
4 surface topology of the underlying substrate.

5 Q Right.

6 A To that extent, no, I would say no, it
7 does not satisfy the planarization layer.

8 Q Right. But I was just asking if it would
9 be a PML?

10 A Technically it would be a PML, I believe.

11 Q Okay. What about Yamazaki?

12 A I think the Yamazaki disclosure satisfies
13 the broad definition of a PML structure.

14 Q I'd like to go back to Exhibit 2006,
15 which contains the one-page email exchange we've
16 been talking about.

17 MR. GARR: And could I have that put up
18 on the screen, too, to the Planet Depos team.

19 Okay.

20 Q I just had a couple more questions about
21 the top email from Inventor Pichler.

22 At the bottom of this top email there's a

1 sentence that begins with, "Just a note."

2 Do you see that second-to-last line of
3 the main text?

4 A I do.

5 Q It says, "The reason why I was originally
6 thinking of spinning the layer." Is the layer
7 here the organic layer?

8 A Yes, I believe so.

9 Q And spinning would be like spin coat.
10 Right?

11 A Correct.

12 Q "As this could be very easily added on
13 to, e.g., a Satella via a separate spin chamber
14 without the need to custom-build a
15 flash-evaporator for the organic."

16 Do you see that?

17 A Yes.

18 Q Do you understand what's being stated
19 here?

20 A I believe this is a fabrication or
21 processing tool question. It's -- it's referring
22 to some existing equipment that needs to be

1 modified to allow for the spin coating of the
2 organic layer.

3 Q What's a Satella, if that's the right --

4 A I don't --

5 Q -- pronunciation?

6 A -- know what the Satella tool is.

7 Q I'm sorry, I talked over you.

8 A I don't know what the Satella tool is.

9 Q Okay. And what does a flash-evaporator,
10 or a custom-build flash-evaporator mean?

11 A Well, it's an evaporation tool. And from
12 the context, the Satella tool, whatever it is, can
13 easily have a spin coating chamber added to it.
14 But there is not an available flash-evaporator
15 add-on that apparently is available at the time.

16 Q So is the flash-evaporator referring to
17 the type of machinery, if that's the right term,
18 you would need for the vapor deposition that
19 Inventor Frischknecht had suggested?

20 A Yes, you believe so.

21 Q So this is Inventor Pichler articulating
22 an advantage of the spin-coating approach over the

1 vapor-deposition approach?

2 A Well, I don't know that it's particularly
3 an advantage, other than the existing tool allows
4 for the addition of a spin-coating chamber,
5 whereas there is not an available off-the-shelf, I
6 would say, flash-evaporator chamber that fits that
7 tool.

8 Q That would make it seemingly easier to
9 pursue the spin approach, at least given the tools
10 they have on hand?

11 A Yeah, I think that's what he's implying.
12 Yeah.

13 Q And before the break we talked about how
14 there's sort of two categories of approaches that
15 are still highlighted in yellow on this email
16 about how Inventor Pichler suggested that the
17 organic layer could be patterned.

18 Do you remember that?

19 A Yes.

20 Q Would those approaches to patterning
21 qualify as selectively depositing the organic
22 layer under the '389 patent claims?

1 A Well, yeah, I mean, based upon this --
2 the email, I think in the second sentence where
3 Pichler states that spin, roll, or whatever coat
4 cross-link/cure, and then sputter the dielectric
5 barrier through a mask over the OLED area, in
6 other words, leaving the contact pads, scribe
7 lines free from the barrier, well, it would be a
8 selective barrier deposition for sure in this
9 case, and not necessarily selective for the
10 organic layer based upon this particular email.

11 Q Why do you say, Not necessarily for the
12 organic layer? Is there some ambiguity?

13 A Well, he goes on to talk about
14 cross-linking through a mask, which would suggest
15 I guess a blanket coating, and then using a mask
16 to only cross-section a portion of that organic
17 layer, and then, you know, easily remove it or
18 using the barrier, the selective barrier layer, as
19 a mask.

20 Q The ash-off approach -- let's just do it
21 one at a time. The ash-off approach entails
22 selective removal of the organic from certain

1 locations. Right?

2 A Yes.

3 Q And so would that qualify as selectively
4 depositing the organic layer under the '389 patent
5 claims?

6 A Repeat your question again, please?

7 Q Is this process, where you spin, roll,
8 whatever coat the organic layer. Right?

9 A Right.

10 Q Then you selectively deposit the barrier
11 layer. Right?

12 A Yes.

13 Q And then you ash-off the organic from the
14 places where it's not covered by the barrier.
15 Right?

16 A Yes.

17 Q Does that approach -- I guess I'll ask
18 two questions: Does that approach first entail
19 selective deposition of the barrier?

20 A Yes.

21 Q All right. Tautological, given how we
22 described it. But right.

1 And then what about the organic layer; is
2 that being selectively deposited in this approach?

3 A Well, it's certainly being patterned.

4 Q Is that enough to make it selective
5 deposition?

6 A The '389 pattern allows for -- for
7 patterning.

8 Q What do you mean the '389 definition?

9 A The '389 patent allows for patterning as
10 a method of selective deposition.

11 Q You've distinguished prior art on this
12 basis, applying a narrower definition of
13 selectively depositing, haven't you? That it
14 can't involve subsequent removal?

15 A This -- this is kind of a -- a gray area
16 a little bit, I would say, in this, in this
17 particular communication from the inventors.
18 Because there's no -- there's no actual patterning
19 step involved. It's just using the selectively
20 deposited barrier layer as a -- as an etch stop,
21 if you will, or as a -- as the self-aligned mask
22 for removing the organic layer in specific places.

1 Q But it involves a removal step of
2 removing the material from areas you don't want it
3 to remain. Correct?

4 A Yes.

5 Q And for selectively depositing, you have
6 applied at least in part the Samsung and
7 Dr. Subramanian's construction. Right?

8 A Yes.

9 Q And that construction -- I'm just sort of
10 looking at your construction of it.

11 A Where are you looking specifically?

12 Q I was looking at your claim construction
13 section. It says, you know, "I understand
14 Dr. Subramanian has taken the position that
15 selectively depositing means the material is
16 deposited where you want it and it won't be where
17 you don't, so that you don't need to do a
18 subsequent removal step to remove it from unwanted
19 regions."

20 A Right.

21 Q This ash-off would appear to be such a
22 removal step. Correct?

1 A Well, ashing typically is not considered
2 an etching step, which is why it's not referred to
3 as an etching step. It's referred to -- it's
4 most -- it's generally used as a cleanup to remove
5 unwanted residues after the film has been
6 deposited. If it leaks underneath mask edges or
7 you have some residues that creep under the mask
8 edges, you ash them away with a -- a short blanket
9 ashing step. So it becomes a mostly
10 inconsequential, as opposed to a full-blown
11 patterning and removing of the entire thickness of
12 the layer.

13 Q But in this case I think you said this is
14 an approach for patterning the organic layer.

15 Right?

16 A Yeah, they're taking -- it appears that
17 they're taking the selective barrier layer and
18 using it as a mask to remove the -- the organic
19 material in unwanted areas. That's the suggestion
20 at least in the context of spin -- spin casting
21 the organic layer to begin with.

22 Q Could you turn to Paragraph 145 of your

1 declaration. This pertains to the Burrows
2 reference, or the Burrows combination.

3 A Okay, I'm is there.

4 Q And in Paragraph 145 you note that if the
5 mask is placed some distance away from the
6 substrate, there might be a need from a removal --
7 a need for a removal step.

8 Do you see that? I'm paraphrasing.

9 A I see the statement when materials are
10 deposited through the opening of a mask, it's
11 placed some distance away from the substrate, some
12 subsequent material removal step would very likely
13 have to be performed to remove bled-through
14 material.

15 Q Right. And then you're -- you go on to
16 say that that would not constitute selective
17 deposition under petitioner's and
18 Dr. Subramanian's understanding of selectively
19 depositing, because it would involve substantive
20 removal of materials from unwanted areas.

21 Isn't the same true for the ash-off
22 approach that we've been discussing from the

1 Pichler email?

2 A If we apply Subramanian's definition
3 strictly to what's described in that email, it
4 would not be consistent with Subramanian's
5 definition.

6 Q Is the same true for the UV cross-linking
7 through a mask approach? We can go back to the
8 email.

9 A No, I don't think it would be true for
10 that.

11 Q Why not?

12 A Well, in that -- in that approach the
13 mask is being applied to the organic deposited
14 layer to prevent cross-linking, and therefore
15 allow the uncross-linked material to be washed
16 away in a -- in a normal cleaning step.

17 MR. GARR: Can we put the email back up,
18 please, Planet Depos team, Exhibit 2006, Page 1.

19 Q I mean, the spray or wash off that you
20 discuss, that is a removal of the -- that's a
21 removal step, isn't it?

22 A It is a removal step, and hence my

1 disagreement with Dr. Subramanian's definition of
2 selective -- his definition of selective
3 deposition.

4 Q Right. But if it were applied here, this
5 would not literally meet that definition.

6 Correct?

7 And when I say "applied here" in this, I
8 am referring to the UV cross-linking through a
9 mask approach that's being discussed in the
10 Pichler email.

11 A Understood.

12 If you take Subramanian's definition
13 literally and strictly, it probably would not --
14 would not be consistent with that definition.
15 But, you know, wet chemical cleaning of substrates
16 and devices is common and used many times in the
17 production of microelectronics, including OLED
18 displays. And that cleaning is -- and that's
19 essentially what we're talking about doing here,
20 we're talking about doing a wet chemical etch
21 clean to remove any of the uncross-linked
22 material.

1 So strictly I guess you could call it
2 additional processing. However, it's probably
3 just incorporated in a clean-up after the
4 deposition, like most depositions have clean-ups
5 after them.

6 So it -- it's a little -- again, a little
7 bit of a gray area as to whether you want to call
8 that additional processing required?

9 Q Okay.

10 MR. GARR: And could I ask the Planet
11 Depos team to please pull back up -- I have one
12 last question about Exhibit 1026, the new exhibit.

13 Q And do you remember this exhibit,
14 Mr. Humphrey? This is the case that provides some
15 information about the standard of conception?

16 A Yes.

17 Q I wanted to direct you to the last
18 highlighted sentence that says, "An idea is
19 definite and permanent when the inventor has a
20 specific settled idea, a particular solution to
21 the problem at hand, not just a general goal or
22 research plan he hopes to pursue."

1 Is this generally consistent with the
2 standard you applied, the standard that you
3 applied in assessing conception?

4 A Yes, I believe so. Although the solution
5 that is described in these emails is one solution,
6 one potential solution to the problem that's
7 been -- that's been articulated, along with screen
8 printing and inkjet printing as included in that
9 email string. That's another particular solution
10 to the problem that the inventors also conceived
11 of at the time.

12 Q Pichler's email, the top one, says, after
13 talking about his combination techniques, he sort
14 of ends by saying, "These are all just undeveloped
15 ideas without really having thought through them
16 in detail to spot serious bottlenecks, and
17 certainly I have not done any practical trials
18 whatsoever."

19 How does that bear on your determination
20 about whether this is a definite and permanent
21 idea?

22 A Well, I don't -- I don't know that it

1 directly relates. It's a -- it's definitely a
2 permanent or particular solution to a problem. It
3 hasn't been thoroughly investigated and, you know,
4 certified as the one and only solution. But
5 it's -- it's the grounds, it's the conception on
6 which further development work was likely
7 performed.

8 Q What about his conclusion, or his sort of
9 last sentence, saying, "I'm looking forward to
10 keep this discussion rolling."

11 How does that bear on things?

12 A Well, I just think that there -- there
13 were multiple ideas conceived of on how to deal
14 with the problem of selective deposition, and
15 keeping scribe lines and electrical contacts clear
16 in the process. And they were continuing to
17 explore various solutions in order to determine
18 which ones would be the most effective and most --
19 and optimal.

20 Q It certainly sounds like a research plan,
21 doesn't it?

22 A Well, no, I wouldn't call it research.

1 These -- these processes were well known, but they
2 needed to be applied in the -- you know, to
3 thin-film encapsulation of OLEDs. And so the
4 inventors conceived of them and would continue to
5 do work to develop these solutions in search of
6 the optimal solution.

7 Q Did they have any confidence that these
8 approaches would work?

9 A I think so. I mean, they refer to even
10 in the emails of previous work they've done; not
11 necessarily for this specific application, but
12 that they were already building on work that
13 they -- and processes they had previously used.

14 Q What about Inventor Pichler's comment
15 with respect to UV cross-linking, that, don't know
16 if this will work, never tried; how confident does
17 that sound?

18 A How confident does that sound? It sounds
19 like someone who's familiar with the UV curing of
20 materials, and he may have not personally
21 demonstrated it, but I'm guessing is aware of it
22 and is probably -- seen known applications of it.

1 MR. GARR: And just for the Planet Depos
2 team, can we go back to the email, Exhibit 2006.

3 Is it possible to mark this page as a new
4 exhibit with the highlighting on it and call it
5 Exhibit 1027?

6 A/V TECHNICIAN: Yes, I can do that.

7 (Exhibit 1027 marked for identification
8 and is attached to the transcript.)

9 MR. GARR: Mr. Humphrey, that's all my
10 questions for you at this time.

11 MS. ZHONG: Are you passing the witness
12 now?

13 MR. GARR: Yes.

14 MS. ZHONG: Okay. Can you give me five
15 to ten minutes, I need to look through my notes.

16 MR. GARR: Sure.

17 (A recess was taken.)

18 EXAMINATION BY COUNSEL FOR PATENT OWNER

19 BY MS. ZHONG:

20 Q Mr. Humphrey, can you please pull up
21 Exhibit 2046.

22 A I have it.

1 Q Okay. Can you please go to Paragraph 29.
2 Let me know when you're there.

3 A I'm there.

4 Q Okay. Do you recall discussing with
5 counsel about why you called out Sections 7 of the
6 analysis?

7 A No, not -- not immediately.

8 Q Do you recall discussing with counsel
9 that you mentioned Section 7 in Paragraph 29
10 specifically?

11 A Yes.

12 Q Can you -- I have posted Exhibit 2047 in
13 the chat box. Can you please download that.

14 (Exhibit 2047, previously marked, not
15 attached.)

16 Q Let me know when you have it.

17 A Let's see.

18 Q Do you see Exhibit 2047 in the chat box?

19 A Yes. I've downloaded it. It's opening
20 now.

21 Q Okay. Can you please also go to
22 Paragraph 29 of Exhibit 2047.

1 A Twenty-nine, yes.

2 Q Actually, let's go back to the cover
3 page. Exhibit 2047 is actually your declaration
4 for the 1223 IPR proceeding. Correct?

5 Mr. Humphrey?

6 A I'm -- okay, this is the -- I'm getting
7 back to the cover page.

8 Q Yeah. Page 1.

9 A This is for the 1222 proceeding. Right?

10 Q No. Exhibit 2047 is for the 1223
11 proceeding. Correct?

12 A Oh, I'm sorry. I'm looking at 2046.

13 Q Do you have Exhibit 2047 open?

14 A I do.

15 Q Are you on the cover page?

16 A Yes.

17 Q Does this indicate Exhibit 2047 is your
18 declaration for the 1223 IPR proceeding?

19 A Yes.

20 Q Please go to Paragraph 29.

21 A Hold on just ...

22 Q And it's on Page -- PDF Page 15, original

1 Page 12.

2 A Give me just a moment. I'm trying to
3 catch up with you here.

4 I'm having trouble finding it by that
5 exhibit number, but ...

6 MS. ZHONG: Can the technical assistant
7 please go to Exhibit 2047 and Paragraph 29. Can
8 you blow up that paragraph.

9 A Okay. Thank you.

10 Q So, Mr. Humphrey, can you please review
11 this paragraph.

12 A Yes.

13 Q And does this paragraph have similar
14 language to Paragraph 29 of Exhibit 2046?

15 A I believe so.

16 MS. ZHONG: Planet Depos, can you please
17 go to PDF Page 2, the table of contents of Exhibit
18 2047. Yeah.

19 Q And what is the title of Section 7 here?

20 A "Kijima does not disclose selectively
21 depositing material at least under
22 Dr. Subramanian's construction. Grounds 1

1 through" --

2 Q Okay. So this Section 7 of Exhibit 2047
3 is discussing specifically of selectively
4 depositing under Dr. Subramanian's construction.

5 Correct?

6 A Yes.

7 Q So does it appear that the Paragraph 29
8 of Exhibit 2046 is basically a cut-and-paste error
9 from Exhibit 2047?

10 A Yes.

11 Q Okay.

12 A I think I alluded to that earlier in
13 the -- in today's deposition, that it could be a
14 typo, yeah.

15 Q Okay. And while we are on this page --
16 (Discussion off the record; technical
17 difficulty.)

18 Q So while we are on table of contents of
19 Exhibit 2047, what is the title of Section 6?

20 A "The proposed combination of Kijima and
21 Suzuki does not have a planarization layer (all
22 grounds, Claims 36 to 37 and 40 to 46)."

1 Q So this Section 6 is specifically
2 discussing the planarization layer.

3 Is that correct?

4 A Correct.

5 Q Why don't we go to Paragraph 6 --
6 Paragraph 25, Exhibit 2046.

7 So could this one also be a typo from a
8 cut-and-paste error from Exhibit 2047 when you
9 were discussing Section 6?

10 A You're specifically asking about
11 Paragraph 29?

12 Q Twenty-five.

13 A Oh, sorry.

14 Yes.

15 Q So referencing Paragraphs 25 and 29 of
16 Exhibit 2046 are basically cut-and-paste errors
17 from Exhibit 2047.

18 Is that correct?

19 A Yes, it appears to be.

20 MR. GARR: Objection. Leading.

21 Q Now, if the definition of selective
22 depositing is depositing a material in desired

1 areas, could blanket deposition meet that
2 definition?

3 (Clarification by the court reporter.)

4 Q Mr. Humphrey, do you need me to repeat
5 the question?

6 A Please repeat the question.

7 Q Okay. So if selectively depositing is
8 defined as depositing a material in desired areas
9 and it does not preclude subsequent removal of
10 clean-up of the bled-through materials, would
11 blanket deposition be considered selective
12 deposition?

13 A Now, if I'm understanding your question
14 correctly, no. The ...

15 Q So can you please go to Exhibit 1006,
16 Ghosh. I posted it in the chat box as well.

17 (Exhibit 1006, previously marked, not
18 attached.)

19 A Okay. I'm there.

20 Q If you can go to Paragraph 32 of Ghosh.

21 A Okay.

22 Q Can you do a search for the phrase, "The

1 second encapsulation layer 22 in Figure 3 is
2 formed of one or more oxide layers and is
3 deposited by ALE or ALD"?

4 MR. GARR: Objection. Leading.

5 A I see that. I see that in Paragraph 32,
6 yes.

7 Q Okay. And the next sentence states, "In
8 this second embodiment, the oxide layer 22 is
9 formed over both the encapsulation 21 and the
10 exposed portions of the substrate 2."

11 Do you see that?

12 A Yes.

13 Q So if the oxide layer 22 is blanketly
14 deposited over the entire substrate, including
15 over the encapsulation layer, would that meet the
16 definition of selectively depositing, if the
17 definition is depositing a material in desired
18 areas?

19 A No.

20 Q Can you please go to Exhibit 2046, and
21 starting from Paragraphs 118, where you're
22 discussing Weaver does not perform selective

1 deposition.

2 Let me know when you're there.

3 A I see it in the chat screen here. And
4 I'm sorry, which paragraph?

5 Q Yeah. Paragraph 118.

6 A Okay. Yes.

7 Q Can you review -- it's probably best if
8 you review it on your own computer, Paragraphs 118
9 through 124, for example.

10 A Okay.

11 Q Actually, 118 through 125. Take a quick
12 look at that.

13 A Give me a moment. My PDF viewer crashed,
14 so I'm --

15 Q Sorry.

16 A So I'm getting the Exhibit 2046 now.

17 I'm sorry, my PDF viewer doesn't seem to
18 want to open here.

19 Q Okay.

20 A So I am having software issues. So I'll
21 have to use your chat screen.

22 A/V TECHNICIAN: Just tell me when to

1 scroll.

2 THE WITNESS: Will do.

3 Okay, you can scroll, please. It hasn't
4 scrolled for me. Okay. Okay, you can scroll
5 again, please. Okay, you can scroll again,
6 please. You can scroll up a little, please.
7 That's good. You can scroll up to the end of 25,
8 please.

9 A Okay. That's where you wanted me to
10 stop, at Paragraph 125.

11 Is that correct?

12 Q Sure.

13 A Okay.

14 Q So the analysis in these paragraphs, do
15 they change if the definition of selectively
16 depositing is depositing a material in desired
17 areas?

18 A No.

19 Q Do you recall discussion with counsel on
20 whether Weaver or Yamazaki discloses PML?

21 A Yes.

22 MS. ZHONG: Has Exhibit 1008 been made on

1 the record yet?

2 Q Do you have Exhibit 1008?

3 Let me post it.

4 A Let me see if I can get it up here.

5 Q That's the Weaver reference.

6 Can you please do a word search for PML,
7 or polymer multilayer.

8 MR. GARR: Objection. Leading.

9 A Okay. Sorry for the delay. I'm trying
10 to load Exhibit 1008.

11 Okay, I finally have Exhibit 1008 loaded.
12 And you wanted me to --

13 Q Let me ask you this question: Does
14 Weaver mention PML or polymer multilayer?

15 A No.

16 Q I have also posted Exhibit 1005, which is
17 Yamazaki.

18 (Exhibit 1005, previously marked, not
19 attached.)

20 Q Let me know when you are able to open it.

21 A Okay. Let me get there.

22 Okay, I have Exhibit 1005 open.

1 Q So Exhibit 1005 is Yamazaki. So does
2 Yamazaki mention PML or polymer multilayer?

3 MR. GARR: Objection. Leading.

4 A No.

5 MS. ZHONG: Can we go to Exhibit 2006,
6 Page 1, which is that email chain of February 8,
7 2001. Or we can use Exhibit 1027, which is the
8 annotated version.

9 A I'm in Exhibit 2046, and page --

10 Q Okay.

11 A -- is it 80 -- hold on.

12 Q Are you looking at the cut-and-paste
13 version of that email?

14 A What page is that on, do you -- do you
15 know offhand?

16 Q I don't know. I don't think we have a
17 cut-and-paste version.

18 A Oh, okay. I don't see the actual email
19 itself, if that's what -- if that's what I need to
20 be looking at.

21 Q Okay. Can you download Exhibit 1027.
22 That should be in the chat box.

1 A I mean, I can see it displayed in the
2 chat box, or on the screen here.

3 Q But you don't have the entire thing, do
4 you? You only see the first email?

5 A I'm getting -- I'm trying to load Exhibit
6 1027, Exhibit 1027 now, and it's about to come up,
7 I believe.

8 Okay. Okay, I have it loaded.

9 Q Do you recall discussing with counsel on
10 what the yes in the first, the top email, is
11 referring to?

12 A Yes.

13 Q And what is the yes referring to?

14 A That's referring to the question asked by
15 Inventor Frischknecht regarding spin coating, any
16 thoughts on masking for spin coating.

17 Q And is masking -- sorry, are you done
18 with the answer?

19 A I was just going to say, at the end of
20 his email shown in Exhibit 1027.

21 Q So is masking for spin coating a
22 selective deposition under the definition of

1 depositing a material in desired area?

2 A Masking for spin coating, yes.

3 Q You -- I believe you mentioned that
4 ash-off is different than photo lithographic
5 process. Correct?

6 A Yes; substantially different.

7 Q What are the differences?

8 A Photolithography requires coating with
9 photoresist, running through a -- the coated
10 substrate through a photolithographic tool like
11 a -- a stepper, exposing the resist through a
12 mask, developing the resist, and ultimately
13 etching through the thickness of the underlying
14 film.

15 The ashing is a maskless process that
16 just removes small amounts of material using a
17 simple -- usually it's an oxygen plasma for
18 organic materials. It's a short plasma ash to
19 just remove residues, typically.

20 Q So ashing is to clean up any bled-through
21 or spilled-over materials from selective
22 deposition, for example.

1 Is that correct?

2 A Yes.

3 MR. GARR: Objection. Leading.

4 MS. ZHONG: These are all the questions I
5 have. I pass the witness again.

6 MR. GARR: Nothing more from our side.

7 (Off the record at 4:27 p.m. EDT.)

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

ACKNOWLEDGMENT OF DEPONENT

I, KURT DUANE HUMPHREY, do hereby
acknowledge that I have read and examined the
foregoing testimony, and the same is a true,
correct and complete transcription of the
testimony given by me, and any corrections appear
on the attached Errata sheet signed by me.

(DATE)

(SIGNATURE)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22

C E R T I F I C A T E

I, Debra Ann Whitehead, E-Notary Public in and for
the Commonwealth of Virginia, do hereby certify:

That KURT DUANE HUMPHREY, the witness
whose deposition is hereinbefore set forth, was duly
sworn by me before the commencement of such
deposition and that such deposition was taken
virtually and is a true record of the testimony
given by such witness.

I further certify that the adverse party,
PICTIVA DISPLAYS INTERNATIONAL, INC., was
represented by counsel at the deposition.

I further certify that the deposition of
KURT DUANE HUMPHREY occurred virtually, on
Wednesday, October 1st, from 10:58 a.m. to 4:27 p.m.
EDT.

1 I further certify that I am not related to
2 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 my
9 hand this 4th day of October, 2025.

10
11 My commission expires:
12 October 31, 2027

13
14
15
16  

17 _____
18 E-NOTARY PUBLIC IN AND FOR THE
19 COMMONWEALTH OF VIRGINIA
20
21
22

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

142

A	accurate 6:15, 10:10, 11:19, 15:8, 15:11, 19:6, 20:13, 56:15, 87:18 accurately 21:1 achieve 21:3 achieves 91:5 achieving 59:5 acknowledge 77:12, 89:10, 139:3 acknowledging 74:9 acknowledgment 139:1 acronym 17:21, 29:8, 71:4, 73:4 across 46:5 acrylate 20:4, 40:4, 44:16, 44:19, 107:3 action 12:17, 105:16, 105:18, 141:2, 141:4 actual 94:15, 114:18, 135:18 actually 7:2, 12:14, 23:1, 88:11, 102:18, 126:2, 126:3, 132:11 add-on 110:15 added 89:2, 109:12, 110:13 addition 111:4	additional 120:2, 120:8 address 35:15, 41:12, 47:20, 89:21, 96:5 addressed 17:22, 18:17, 18:20 addresses 84:18 advantage 110:22, 111:3 adverse 140:12 adversely 102:1 affect 101:14, 102:2 after 24:11, 48:16, 116:5, 120:3, 120:5, 121:12 again 32:4, 33:6, 34:10, 35:20, 54:14, 55:22, 58:1, 60:3, 65:13, 77:9, 88:21, 99:22, 113:6, 120:6, 133:5, 138:5 against 41:20 ago 39:21, 55:20 agree 68:2, 84:2 agreed 71:3, 103:21, 104:2 agreed-to 86:7, 88:2, 88:21 agreed-upon 56:19, 88:6, 88:14, 89:9 ahead 9:14, 67:19,	71:18, 104:17 ald 131:3 ale 131:3 all 7:8, 12:6, 15:17, 24:11, 27:8, 27:22, 34:10, 35:7, 58:14, 59:10, 60:14, 71:15, 74:10, 74:20, 82:22, 94:16, 113:21, 121:14, 124:9, 128:21, 138:4 allow 35:7, 110:1, 118:15 allowing 58:1 allows 38:22, 49:9, 111:3, 114:6, 114:9 alluded 53:16, 128:12 almost 83:22 along 121:7 already 82:19, 106:17, 107:9, 123:12 also 3:20, 10:16, 31:22, 34:14, 38:22, 44:15, 47:9, 66:9, 71:3, 72:3, 73:12, 95:10, 96:1, 100:3, 121:10, 125:21, 129:7, 134:16 alternating 20:3, 21:5, 25:6, 75:22,
----------	--	--	--

107:2 alternative 30:10, 30:14, 31:2, 45:17, 47:4, 49:11 alternatively 55:10, 57:15 alternatives 35:8, 58:1, 58:12, 59:11 although 25:3, 27:21, 37:9, 59:9, 121:4 always 73:22, 74:2, 91:21 ambiguity 112:12 amounts 137:16 analysis 69:10, 80:2, 87:7, 87:15, 87:22, 88:3, 88:7, 88:8, 88:10, 97:16, 97:18, 98:16, 102:13, 103:5, 125:6, 133:14 analyzed 67:17, 69:20, 80:16 analyzes 86:4 analyzing 80:7, 80:12, 81:14 andros 3:4 angeles 3:16 ann 2:5, 140:2 annita 3:12 annotated 4:11, 135:8	another 11:9, 11:16, 22:20, 49:19, 86:6, 95:13, 121:9 answer 23:19, 37:4, 37:8, 38:12, 77:9, 78:1, 94:17, 100:18, 136:18 answered 104:16 answering 21:1, 44:3, 44:4 answers 62:10 anticipate 46:14, 48:10 any 6:14, 6:20, 8:19, 12:13, 26:1, 26:4, 32:22, 33:14, 33:15, 42:13, 44:12, 50:8, 53:7, 53:11, 54:15, 59:21, 61:19, 63:21, 73:5, 73:8, 73:10, 79:15, 87:15, 88:3, 102:9, 119:21, 121:17, 123:7, 136:15, 137:20, 139:6, 141:2, 141:3 anymore 46:17 anyone 7:9 anyone's 36:2 anything 35:15, 67:4, 71:6 anyway 24:2, 98:6	anywhere 71:10, 100:21 apologize 102:19 apparently 29:3, 36:4, 103:21, 104:2, 110:15 appeal 1:2 appeals 66:18 appear 65:1, 115:21, 128:7, 139:6 appears 10:9, 29:14, 30:7, 30:20, 31:22, 32:17, 33:7, 35:9, 45:19, 48:7, 51:8, 51:18, 53:5, 116:16, 129:19 appendix 15:3, 15:6, 15:14 applicable 100:12 applicants 103:19 application 72:14, 84:11, 85:10, 89:1, 89:13, 91:1, 100:1, 123:11 applications 123:22 applied 67:7, 68:20, 75:7, 76:22, 77:17, 80:2, 86:18, 86:19, 96:17, 98:15, 99:15, 103:1, 115:6, 118:13, 119:4, 119:7, 121:2, 121:3,	123:2 apply 84:6, 86:22, 87:3, 88:4, 103:4, 118:2 applying 80:22, 83:18, 86:13, 97:4, 97:13, 97:21, 98:4, 98:7, 98:21, 99:20, 114:12 appreciate 7:4, 38:20, 65:19 approach 45:9, 45:13, 52:9, 53:3, 55:13, 56:16, 57:14, 61:1, 61:16, 82:6, 110:22, 111:1, 111:9, 112:20, 112:21, 113:17, 113:18, 114:2, 116:14, 117:22, 118:7, 118:12, 119:9 approaches 45:21, 50:2, 58:6, 59:1, 59:5, 59:20, 61:19, 63:11, 111:14, 111:20, 123:8 approximately 12:5 area 48:1, 48:2, 48:10, 112:5, 114:15, 120:7, 137:1 areas 40:6, 56:22, 57:1, 58:17, 58:20, 115:2, 116:19, 117:20, 130:1, 130:8,
--	--	---	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

144

131:18, 133:17 aren't 33:19 argument 89:3 arguments 103:16 around 55:9, 72:20 arrived 77:14 art 20:16, 21:14, 21:21, 22:7, 22:12, 23:18, 24:5, 24:22, 25:2, 26:5, 68:15, 69:17, 71:4, 79:21, 79:22, 80:11, 98:3, 99:7, 102:13, 114:11 articles 73:5 articulated 121:7 articulating 110:21 ash 116:8, 137:18 ash-off 52:20, 53:2, 53:13, 57:12, 58:7, 59:2, 59:22, 60:18, 63:8, 112:20, 112:21, 113:13, 115:21, 117:21, 137:4 asher 52:19 ashing 116:1, 116:9, 137:15, 137:20 asked 23:16, 37:7, 38:8, 50:12, 92:7, 92:16,	107:11, 136:14 asking 24:15, 37:11, 37:14, 50:13, 62:6, 72:15, 72:20, 98:17, 108:8, 129:10 asks 39:2 aspect 85:16, 86:10, 89:20, 105:18 aspects 20:7, 21:9, 106:1 asserted 41:20 assessing 68:20, 79:20, 79:22, 80:5, 81:2, 121:3 assessment 70:2, 82:3, 82:9, 85:19 assistant 127:6 associated 91:15 atomic 91:20 attached 4:7, 4:14, 8:18, 10:21, 17:2, 27:7, 65:21, 107:14, 124:8, 125:15, 130:18, 134:19, 139:7 attempts 7:9 attorney 141:3 august 12:5 available 9:5, 26:22, 31:8, 31:11, 32:1, 33:9,	34:2, 34:12, 35:6, 36:6, 110:14, 110:15, 111:5 avenue 3:14 avoid 29:17, 34:17, 49:2, 58:19, 61:7 avoiding 34:20 aware 14:3, 123:21 away 56:9, 116:8, 117:5, 117:11, 118:16 awesome 95:5 B back 13:12, 24:8, 32:7, 50:22, 55:8, 63:20, 64:2, 81:11, 94:21, 106:9, 108:14, 118:7, 118:17, 120:11, 124:2, 126:2, 126:7 background 18:4, 18:21, 19:1, 20:6 bad 67:3 barr 4:9, 66:19 barrier 20:5, 21:6, 22:19, 25:7, 25:18, 30:22, 33:17, 34:15, 39:12, 41:13, 51:21, 52:2, 52:5, 52:7, 52:9, 52:13,	52:17, 52:21, 53:6, 57:11, 58:8, 58:16, 59:3, 60:19, 61:9, 63:9, 76:2, 76:3, 104:8, 104:20, 105:3, 107:4, 112:5, 112:7, 112:8, 112:18, 113:10, 113:14, 113:19, 114:20, 116:17 barrier-layer 31:11 based 84:19, 88:2, 88:22, 104:3, 112:1, 112:10 basic 75:16 basically 12:9, 46:7, 50:13, 56:21, 128:8, 129:16 basis 39:3, 114:12 bear 56:3, 107:21, 121:19, 122:11 because 18:8, 31:16, 32:5, 68:3, 73:12, 78:3, 83:6, 84:15, 87:21, 89:4, 90:20, 91:19, 98:18, 104:15, 114:18, 117:19 becomes 56:7, 116:9 been 6:3, 6:11, 9:2, 9:3, 12:11, 14:5, 19:11, 19:21, 20:19, 22:3, 30:19, 32:17, 47:7,
--	--	---	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

145

53:22, 55:1, 55:2, 57:16, 64:15, 66:9, 67:1, 67:10, 70:6, 74:18, 84:4, 97:21, 106:19, 108:16, 116:5, 117:22, 121:7, 122:3, 133:22 before 1:2, 2:5, 6:11, 104:22, 111:13, 140:7 begin 64:4, 116:21 beginning 19:3, 19:20, 26:11, 27:15, 94:22 begins 42:1, 43:21, 44:14, 51:2, 51:11, 55:10, 57:8, 57:15, 68:4, 79:13, 85:5, 94:2, 109:1 behalf 3:2, 3:11 being 24:22, 28:20, 30:10, 30:13, 31:1, 32:3, 33:11, 34:3, 34:5, 34:11, 34:17, 34:18, 35:10, 36:1, 36:6, 44:7, 46:10, 47:4, 48:20, 49:11, 50:11, 50:21, 57:21, 58:13, 58:20, 59:6, 66:2, 74:15, 92:4, 92:17, 109:18, 114:2, 114:3, 118:13,	119:9 believe 9:2, 11:21, 13:12, 14:5, 15:20, 16:10, 16:13, 20:11, 20:14, 22:8, 24:13, 25:1, 26:10, 27:21, 28:3, 31:13, 32:22, 37:9, 42:16, 42:20, 44:5, 44:10, 48:14, 51:13, 65:4, 65:22, 69:1, 69:2, 69:12, 69:16, 70:13, 70:17, 71:10, 78:18, 78:19, 79:15, 81:8, 82:12, 83:4, 83:15, 97:14, 104:4, 104:7, 104:19, 108:10, 109:8, 109:20, 110:20, 121:4, 127:15, 136:7, 137:3 below 32:8, 84:7, 103:15, 105:21 best 10:11, 30:13, 31:7, 93:3, 132:7 better 28:14, 62:11 between 24:8, 31:18, 33:3, 33:8, 35:11, 35:21, 46:8, 72:7, 72:13, 89:22, 98:21, 103:18 beyond 33:12 bigger 107:19	bit 51:10, 68:1, 106:16, 114:16, 120:7 blanket 112:15, 116:8, 130:1, 130:11 blanketly 131:13 bled-through 117:13, 130:10, 137:20 block 50:20, 56:5 blood 141:2 blow 28:12, 67:22, 127:8 board 1:2, 75:19, 77:14 boards 75:20 both 131:9 bottlenecks 121:16 bottom 28:7, 28:10, 28:15, 35:14, 39:20, 54:11, 108:22 box 125:13, 125:18, 130:16, 135:22, 136:2 break 55:4, 63:16, 63:22, 95:15, 106:5, 111:13 bring 10:18, 16:20, 27:1, 27:2, 27:4, 66:16, 107:10, 107:18 broad 108:13	brought 11:1 building 123:12 built 33:19, 33:20 burling 3:5 burroughs 4:9, 66:19 burrows 117:1, 117:2 C california 3:16 call 7:10, 78:18, 96:10, 120:1, 120:7, 122:22, 124:4 called 8:14, 66:19, 125:5 can't 6:14, 27:21, 28:2, 46:17, 54:11, 78:3, 78:5, 114:14 capital 51:2 captures 69:10 care 60:9 carefully 29:10 case 1:6, 8:6, 8:11, 10:8, 11:17, 13:6, 15:14, 16:2, 16:6, 16:9, 16:18, 19:12, 20:20, 53:5, 56:22, 67:1, 75:8, 106:2, 112:9, 116:13, 120:14
--	--	--	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

146

casting 46:3, 116:20 catch 127:3 categories 61:21, 111:14 cathode 48:16 center 3:6 central 58:14 certain 57:12, 64:10, 112:22 certainly 33:18, 34:1, 71:9, 75:17, 75:21, 88:14, 98:8, 114:3, 121:17, 122:20 certified 122:4 certify 140:3, 140:12, 140:16, 141:1 cetera 52:16 chain 32:21, 64:14, 70:2, 135:6 challenged 42:6, 80:7 chamber 109:13, 110:13, 111:4, 111:6 change 87:14, 133:15 characterize 99:9 charged 101:15 chat 9:2, 10:17, 17:4, 125:13, 125:18, 130:16, 132:3, 132:21, 135:22, 136:2	chemical 119:15, 119:20 circuit 66:18 cite 70:18, 71:6, 106:22 cited 67:1 city 3:6 claim 77:3, 77:15, 81:22, 85:22, 86:13, 96:1, 102:10, 105:19, 115:12 claimed 81:15, 81:18 claims 41:21, 42:6, 64:10, 69:4, 75:1, 76:16, 80:7, 100:6, 100:13, 111:22, 113:5, 128:22 clarification 130:3 clarify 90:3 clean 119:21, 137:20 clean-up 120:3, 130:10 clean-ups 120:4 cleaning 118:16, 119:15, 119:18 cleanup 100:14, 100:15, 116:4 clear 14:19, 24:1, 49:3, 53:15, 53:20, 54:2, 122:15 clearly 34:11, 35:22	click 60:15 close 101:5 closing 9:17, 54:15 coat 46:2, 57:10, 109:9, 112:3, 113:8 coated 50:21, 57:22, 137:9 coating 31:10, 33:16, 40:5, 44:13, 44:15, 45:5, 45:18, 45:21, 46:3, 46:13, 46:16, 47:5, 50:8, 50:14, 50:17, 51:12, 51:19, 54:1, 54:16, 63:2, 63:5, 73:11, 110:1, 110:13, 112:15, 136:15, 136:16, 136:21, 137:2, 137:8 colleague 65:16 colorado 6:19 column 19:3, 19:5, 19:11, 19:15, 19:16, 19:18, 20:8, 20:12, 21:6, 42:4, 68:4, 68:7 combination 51:12, 51:16, 117:2, 121:13, 128:20 combinations 74:14 combined 101:17	come 96:15, 100:5, 136:6 comes 93:1, 100:2 commencement 140:7 comment 123:14 commented 96:21 commission 141:11 common 33:9, 36:1, 36:3, 36:5, 73:1, 119:16 commonly 33:7, 73:2, 73:12, 89:18 commonwealth 2:6, 140:3, 141:19 communicate 7:9, 32:7 communication 6:20, 6:22, 114:17 communications 81:10 compatible 32:1, 34:13, 34:15 complete 35:6, 91:5, 91:7, 91:8, 139:5 completeness 62:1 comprises 107:2 comprising 20:3, 21:4 computer 132:8 conceive 65:6 conceived 64:10, 65:11,
---	--	---	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

147

74:5, 81:15, 82:5, 121:10, 122:13, 123:4 concept 29:12, 30:17, 30:18, 53:3, 98:7 conception 26:7, 36:20, 38:1, 43:9, 43:17, 52:3, 64:5, 64:13, 64:19, 67:5, 67:17, 68:13, 68:22, 73:3, 83:4, 87:4, 103:5, 120:15, 121:3, 122:5 concepts 22:5, 25:2, 34:1 concern 47:20 conclude 82:14, 83:11 conclusion 80:21, 122:8 conclusions 69:13, 69:18, 87:19, 98:1, 99:6 conditions 29:10 conducted 1:14, 2:1 confidence 123:7 confident 123:16, 123:18 confirm 21:17 confused 84:13, 87:21 connection 12:3, 13:11, 13:15, 19:12, 20:20, 22:13, 22:16, 30:5,	50:16 considered 44:15, 91:22, 98:8, 116:1, 130:11 considering 97:15, 97:17, 98:19, 98:21 consistent 20:18, 38:19, 67:6, 68:19, 80:6, 81:8, 83:17, 118:4, 119:14, 121:1 constitute 117:16 construction 75:6, 75:13, 76:22, 77:3, 77:15, 81:7, 83:1, 83:13, 84:3, 84:7, 84:11, 85:21, 85:22, 86:8, 86:13, 86:18, 87:3, 87:9, 87:14, 87:20, 88:2, 88:9, 88:15, 88:19, 88:21, 89:1, 89:9, 91:7, 91:10, 94:21, 95:5, 96:2, 96:12, 96:18, 97:4, 98:7, 99:8, 99:16, 100:11, 100:21, 101:21, 102:5, 102:10, 102:13, 103:1, 103:4, 115:7, 115:9, 115:10, 115:12, 127:22, 128:4 construed 82:10 contact 52:16, 112:6 contacts 122:15	contained 42:9 contains 43:8, 108:15 contents 85:4, 127:17, 128:18 context 33:11, 40:10, 48:6, 53:20, 54:17, 54:21, 63:1, 63:4, 93:21, 110:12, 116:20 continue 40:1, 62:15, 123:4 continued 5:1, 59:15 continuing 40:2, 122:16 contours 89:14, 91:12, 92:2, 92:13, 92:21 control 60:6, 60:11 controlled 101:17 conversation 62:16 conversations 63:21 copy 8:22 correct 6:12, 7:17, 7:18, 7:21, 8:11, 10:8, 14:2, 16:10, 17:11, 17:12, 17:14, 20:9, 21:11, 21:12, 21:21, 22:7, 22:12, 24:5, 24:14, 26:8, 26:16, 26:19, 27:16, 28:3,	28:16, 28:17, 28:19, 32:18, 34:8, 36:17, 36:22, 40:18, 41:1, 41:10, 42:6, 42:7, 42:10, 42:14, 42:15, 42:18, 43:7, 43:10, 43:14, 43:19, 44:17, 45:14, 46:13, 48:7, 48:12, 50:1, 52:4, 52:10, 54:4, 58:5, 58:10, 61:2, 61:17, 63:13, 69:11, 69:14, 69:22, 70:10, 72:12, 74:1, 74:7, 79:1, 81:13, 82:11, 84:19, 87:10, 94:16, 96:3, 96:19, 97:2, 97:4, 97:6, 97:12, 102:10, 102:14, 103:3, 109:11, 115:3, 115:22, 119:6, 126:4, 126:11, 128:5, 129:3, 129:4, 129:18, 133:11, 137:5, 138:1, 139:5 corrections 139:6 correctly 130:14 correspondence 103:18 corresponding 43:19 could 6:8, 10:22, 11:7, 17:3, 23:11, 27:9, 41:6, 43:15,
---	---	--	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

148

44:8, 47:2, 51:10, 53:6, 65:18, 67:9, 68:15, 71:18, 80:10, 97:19, 101:2, 101:17, 102:1, 103:8, 104:12, 106:11, 108:17, 109:12, 111:17, 116:22, 120:1, 120:10, 128:13, 129:7, 130:1 counsel 6:4, 38:14, 38:22, 55:1, 62:2, 62:9, 62:12, 63:22, 124:18, 125:5, 125:8, 133:19, 136:9, 140:14 counsel's 38:2 couple 9:17, 70:11, 108:20 court 12:14, 12:17, 66:18, 75:19, 130:3 court-specific 75:18 cover 101:18, 126:2, 126:7, 126:15 covered 113:14 covington 3:5 crashed 132:13 create 49:9 creep 116:7 cross-link 53:22, 57:10, 112:4	cross-linkable 29:11, 39:11 cross-linked 56:11 cross-linking 39:12, 54:3, 55:15, 55:21, 56:2, 56:6, 57:17, 58:9, 59:3, 59:22, 61:12, 63:10, 112:14, 118:6, 118:14, 119:8, 123:15 cross-section 94:9, 112:16 cure 53:17, 54:1, 112:4 curing 56:6, 123:19 current 15:21 currently 6:17, 31:8 custom-build 109:14, 110:10 cut-and-paste 128:8, 129:8, 129:16, 135:12, 135:17 cv 15:7	deals 85:15 debatable 25:4 debra 1:22, 2:5, 140:2 december 11:13 decision 66:17 decisions 67:2 declaration 8:12, 9:1, 10:7, 10:12, 11:9, 11:16, 13:22, 14:11, 14:13, 14:14, 14:18, 15:9, 16:11, 16:14, 21:2, 21:8, 22:11, 22:18, 23:16, 24:9, 26:10, 27:16, 37:2, 37:10, 37:15, 37:17, 38:3, 39:5, 41:17, 64:2, 65:1, 66:15, 69:5, 69:7, 71:11, 84:17, 103:7, 106:12, 106:17, 108:2, 117:1, 126:3, 126:18 declarations 8:10, 12:7 defects 86:5, 86:9 define 59:15, 90:20, 93:15, 93:18, 97:9, 97:10 defined 130:8 definite 68:14, 120:19,	121:20 definitely 78:9, 122:1 definition 19:6, 19:10, 19:11, 19:14, 56:20, 57:18, 75:4, 75:18, 75:21, 77:13, 77:17, 79:5, 79:9, 79:16, 80:2, 80:9, 80:22, 83:17, 88:6, 88:13, 88:15, 90:5, 97:13, 97:21, 97:22, 102:7, 107:7, 108:13, 114:8, 114:12, 118:2, 118:5, 119:1, 119:2, 119:5, 119:12, 119:14, 129:21, 130:2, 131:16, 131:17, 133:15, 136:22 degree 47:6, 77:21, 90:17, 90:21, 91:4, 91:21, 95:6 delay 134:9 demonstrated 123:21 denoted 85:14 depending 91:3 depends 75:4 deponent 139:1 depos 108:18, 118:18, 120:11, 124:1, 127:16 deposed 6:11, 14:4,
	D		
	date 13:8, 20:17, 64:14, 139:10 dated 11:13 david 3:3 day 141:9 dc 3:8 deal 102:20, 122:13		

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

149

16:17 deposit 56:1, 61:9, 101:18, 113:10 deposited 46:8, 46:10, 56:11, 58:20, 98:11, 101:15, 105:4, 114:2, 114:20, 115:16, 116:6, 117:10, 118:13, 131:3, 131:14 depositing 34:15, 35:16, 40:4, 40:11, 40:15, 40:22, 41:9, 41:13, 45:14, 49:20, 52:4, 52:9, 55:14, 56:3, 56:17, 57:5, 59:16, 76:7, 96:3, 96:6, 97:10, 98:10, 100:20, 102:5, 105:2, 111:21, 113:4, 114:13, 115:5, 115:15, 117:19, 127:21, 128:4, 129:22, 130:7, 130:8, 131:16, 131:17, 133:16, 137:1 deposition 1:13, 2:1, 4:8, 4:15, 5:2, 7:10, 8:1, 8:5, 13:10, 13:13, 14:6, 16:21, 17:17, 27:5, 33:17, 36:8, 36:20, 39:10, 40:7, 45:9, 45:17, 45:20, 45:22, 46:2, 46:6, 46:12, 46:15, 47:3, 47:21,	48:3, 48:4, 48:16, 49:2, 49:5, 49:7, 50:4, 51:20, 52:1, 52:13, 53:18, 54:18, 54:21, 56:20, 57:19, 58:17, 63:12, 66:1, 100:15, 102:2, 104:8, 104:20, 107:10, 110:18, 112:8, 113:19, 114:5, 114:10, 117:17, 119:3, 120:4, 122:14, 128:13, 130:1, 130:11, 130:12, 132:1, 136:22, 137:22, 140:6, 140:8, 140:14, 140:16 depositions 58:15, 99:3, 120:4 derek 3:4 described 20:2, 36:6, 113:22, 118:3, 121:5 describing 29:15, 33:6, 89:11 description 56:15 design 94:3 desired 30:16, 57:1, 58:18, 129:22, 130:8, 131:17, 133:16, 137:1 desperately 61:7 detail 32:5, 42:18, 59:13, 121:16	details 16:9, 94:16 determination 121:19 determine 65:10, 122:17 develop 123:5 developing 137:12 development 59:15, 74:18, 122:6 devices 6:20, 6:22, 76:3, 105:4, 105:19, 119:16 diagram 94:3 dielectric 52:2, 52:7, 52:20, 57:11, 58:8, 58:16, 59:2, 60:19, 63:9, 112:4 differ 30:18, 45:21 difference 89:22 differences 137:7 different 23:2, 46:1, 46:2, 63:11, 63:14, 74:13, 85:9, 87:1, 88:4, 92:17, 137:4, 137:6 difficult 68:1, 90:19 difficulties 24:7 difficulty 9:20, 22:15, 53:10, 128:17 direct 107:17, 107:20, 120:17	directly 106:3, 122:1 disables 86:5 disagree 19:14, 96:22, 99:2 disagreement 119:1 disclose 69:21, 104:8, 105:2, 127:20 discloses 80:6, 80:13, 81:3, 85:19, 85:20, 92:10, 104:19, 133:20 disclosure 70:10, 74:4, 93:2, 108:12 discretion 97:9 discuss 20:7, 21:8, 21:14, 22:10, 23:15, 24:3, 24:16, 79:12, 94:22, 100:20, 103:8, 118:20 discussed 22:6, 27:15, 28:20, 34:4, 39:9, 42:18, 54:6, 61:20, 63:8, 77:3, 83:16, 84:4, 84:16, 85:21, 92:4, 119:9 discusses 37:2, 40:21, 49:14, 92:2, 108:2 discussing 25:6, 30:19, 31:9, 32:17, 39:21, 40:11, 40:14, 41:9, 53:2, 57:16,
--	--	--	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

150

59:9, 76:7, 78:14, 78:22, 117:22, 125:4, 125:8, 128:3, 129:2, 129:9, 131:22, 136:9 discussion 9:19, 19:2, 19:5, 19:20, 19:21, 20:11, 22:14, 34:6, 41:14, 53:9, 62:18, 79:13, 82:21, 85:7, 95:10, 96:2, 107:21, 122:10, 128:16, 133:19 disperse 46:4 display 1:4, 16:2 displayed 36:17, 136:1 displays 1:8, 33:19, 47:17, 47:18, 119:18, 140:13 dissolve 56:8 distance 117:5, 117:11 distinction 98:20, 98:22 distinguish 105:12 distinguished 114:11 distribute 65:18 district 12:14, 12:16, 75:19 document 9:3, 9:4, 9:9, 10:1, 10:5, 10:19, 14:14, 15:2, 17:9, 18:6, 26:21,	27:22, 28:7, 60:2, 60:5, 60:18, 62:13, 67:9, 87:16, 107:11 documents 8:20 doing 38:15, 61:4, 61:7, 119:19, 119:20 done 7:6, 55:3, 55:5, 67:9, 68:5, 121:17, 123:10, 136:17 down 28:8, 44:8, 46:19, 54:12, 55:9, 58:2, 68:3, 76:6, 91:20, 99:1 download 9:11, 125:13, 135:21 downloaded 125:19 dr 14:1, 14:9, 62:4, 86:4, 96:12, 98:9, 99:8, 102:7, 115:7, 115:14, 117:18, 119:1, 127:22, 128:4 drawing 98:20 duane 1:13, 2:1, 4:2, 6:2, 6:10, 139:2, 140:5, 140:17 duly 6:3, 140:6 during 7:10, 8:5, 53:22, 54:1, 63:22, 77:14,	103:16, 105:14 dyads 26:4 E e-notary 2:6, 140:2, 141:18 earlier 14:18, 32:13, 32:18, 128:12 ease 10:18 easier 111:8 easiest 9:12, 18:10 easily 109:12, 110:13, 112:17 edges 116:6, 116:8 edt 1:16, 138:7, 140:19 effective 122:18 either 49:10, 57:21, 72:6, 73:12, 94:10, 94:12 electrical 40:5, 45:4, 122:15 electromagnet 101:13, 101:14 element 40:22, 42:5, 42:8, 42:12, 42:13, 42:16, 43:10, 43:17, 43:19, 52:4, 85:1, 98:3, 98:5, 99:7, 105:19 elements 41:20, 42:5, 94:4	elsewhere 18:22 emagin 29:3, 34:2 emails 54:11, 72:6, 72:13, 121:5, 123:10 embodiment 131:8 emphasize 105:4 employed 141:3 enables 86:5 encapsulation 20:2, 21:3, 29:2, 30:6, 30:19, 31:2, 73:7, 74:6, 82:15, 83:8, 85:8, 85:9, 85:10, 85:17, 123:3, 131:1, 131:9, 131:15 end 15:2, 44:11, 49:13, 50:7, 51:6, 87:6, 95:18, 133:7, 136:19 ends 121:14 enough 68:15, 114:4 entail 25:11, 113:18 entails 112:21 entire 116:11, 131:14, 136:3 entirely 30:1, 54:2, 88:1, 88:22 environmental 76:2
---	---	--	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

151

equating 29:9 equipment 29:17, 30:2, 31:8, 32:1, 33:12, 34:2, 34:6, 34:17, 34:20, 35:5, 35:7, 109:22 errata 139:7 error 128:8, 129:8 errors 129:16 esquire 3:3, 3:4, 3:12 essentially 50:16, 119:19 et 52:16 etch 114:20, 119:20 etching 49:10, 116:2, 116:3, 137:13 evaporated 57:21 evaporation 46:7, 110:11 even 97:13, 123:9 every 21:17, 78:3, 78:5 evidence 36:20, 37:22, 42:9, 42:13, 43:10, 43:16, 43:17, 52:3, 64:13, 68:21, 70:9, 70:18, 71:7, 72:11, 73:8, 73:10 exactly 32:6, 34:5, 77:10, 90:20 examination 4:2, 6:4,	124:18 examined 139:3 examiner 103:19, 103:21, 104:1, 104:4 example 52:19, 79:21, 80:14, 81:22, 84:18, 132:9, 137:22 excerpt 21:6, 92:7, 103:11, 103:15, 106:4 excerpted 43:18 excerpts 70:11 exchange 26:15, 26:18, 27:14, 27:19, 72:10, 72:16, 72:19, 72:21, 75:11, 77:8, 78:20, 81:11, 82:4, 82:17, 83:10, 108:15 exchanged 72:6 excuse 19:17, 28:10 exhibit 4:8, 4:9, 4:11, 4:15, 4:16, 4:17, 4:18, 4:19, 4:20, 4:21, 4:22, 5:2, 5:3, 8:14, 8:15, 8:17, 9:3, 10:2, 10:19, 10:20, 11:4, 12:7, 12:8, 14:12, 14:13, 14:18, 14:22, 16:21, 16:22, 17:1, 17:7, 26:18, 27:5, 27:6,	27:11, 65:15, 65:16, 65:20, 66:2, 66:3, 66:6, 66:7, 66:17, 107:10, 107:13, 108:14, 118:18, 120:12, 120:13, 124:2, 124:4, 124:5, 124:7, 124:21, 125:12, 125:14, 125:18, 125:22, 126:3, 126:10, 126:13, 126:17, 127:5, 127:7, 127:14, 127:17, 128:2, 128:8, 128:9, 128:19, 129:6, 129:8, 129:16, 129:17, 130:15, 130:17, 131:20, 132:16, 133:22, 134:2, 134:10, 134:11, 134:16, 134:18, 134:22, 135:1, 135:5, 135:7, 135:9, 135:21, 136:5, 136:6, 136:20 exhibits 4:6, 4:13, 5:1, 13:19 existing 109:22, 111:3 expanded 28:1 expert 7:15, 12:20, 13:3, 15:13, 15:18, 16:11 expires 141:11 explain 38:22 explicit 102:9 explicitly 31:17, 36:1,	102:12 explore 122:17 exposed 131:10 exposing 137:11 expressly 88:18 extent 16:6, 22:3, 38:2, 54:19, 91:3, 108:6 F fabrication 58:19, 109:20 facility 34:3 fact 99:14 fairly 27:22, 56:7, 61:5 fall 61:21 familiar 33:16, 33:18, 33:22, 34:1, 73:13, 77:13, 123:19 feasible 29:17 february 26:14, 64:10, 72:7, 72:16, 81:12, 135:6 federal 66:18 few 18:9, 55:6, 79:11 fifty-one 105:7 figure 93:4, 93:8, 93:9, 93:11, 131:1
--	--	---	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

152

filed 12:11, 13:17, 16:15 film 20:1, 21:3, 52:17, 52:21, 53:6, 58:8, 59:3, 60:20, 63:9, 73:6, 82:19, 116:5, 137:14 finally 134:11 financially 141:5 find 37:3 finding 127:4 fine 14:16, 17:18, 37:19 first 23:13, 28:6, 35:13, 39:17, 56:10, 57:8, 57:9, 60:18, 63:15, 64:8, 64:17, 68:11, 81:20, 89:4, 113:18, 136:4, 136:10 fits 111:6 five 22:17, 124:14 flash 57:21 flash-evaporator 109:15, 110:9, 110:10, 110:14, 110:16, 111:6 flatten 90:16 flattening 77:21, 91:18 focus 100:15	focused 66:15 focuses 85:8 folder 9:15 follow 101:10 followed 59:4 following 108:3 follows 6:3, 88:12, 89:5 forces 101:17 foregoing 139:4 forgive 64:22 form 12:19, 13:7, 19:9, 19:13, 20:21, 24:6, 25:12, 28:22, 29:13, 30:12, 31:4, 41:2, 58:11, 59:7, 60:1, 64:21, 75:14, 83:3, 83:14, 93:16, 97:22, 107:8 formation 35:8 formed 131:2, 131:9 forming 80:21, 89:13, 99:6 forms 89:12, 92:11 forth 24:8, 32:7, 81:4, 140:6 forward 70:16, 122:9 fourth 76:6	frankly 74:13 free 9:18, 40:5, 45:4, 46:16, 52:16, 112:7 frischknecht 36:12, 36:13, 36:15, 37:22, 39:13, 40:2, 40:18, 40:21, 42:10, 42:14, 46:11, 47:4, 47:19, 49:14, 53:16, 54:7, 61:6, 110:19, 136:15 frischknecht's 44:4, 44:9, 44:11, 51:7 front 8:20, 10:2, 11:4, 14:22, 17:6, 18:6, 23:7, 27:12, 62:18 fujimori 101:11, 102:1 full 6:8, 68:11 full-blown 116:10 function 75:16, 79:7, 83:6, 89:19 further 21:9, 49:18, 99:1, 122:6, 140:12, 140:16, 141:1 G garr 3:3, 4:3, 6:5, 8:14, 10:16, 10:22, 11:7, 16:20, 17:3, 23:22, 27:4,	28:8, 28:12, 38:5, 38:11, 38:18, 39:2, 41:4, 46:19, 50:22, 54:12, 55:5, 60:4, 60:9, 60:13, 60:16, 62:5, 62:8, 62:14, 63:16, 63:19, 65:14, 66:6, 67:8, 68:2, 100:9, 104:12, 106:5, 106:8, 107:9, 107:15, 108:17, 118:17, 120:10, 124:1, 124:9, 124:13, 124:16, 129:20, 131:4, 134:8, 135:3, 138:3, 138:6 general 25:16, 77:18, 88:3, 88:13, 89:7, 120:21 generally 21:16, 21:18, 33:19, 67:14, 68:19, 77:19, 78:2, 85:11, 89:8, 90:5, 91:14, 91:17, 91:22, 103:2, 116:4, 121:1 getting 77:11, 101:5, 126:6, 132:16, 136:5 ghosh 72:2, 103:8, 103:13, 104:3, 104:7, 104:19, 105:1, 130:16, 130:20 give 6:14, 60:6, 60:10, 71:20,
--	---	---	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

153

124:14, 127:2, 132:13 given 40:9, 57:19, 111:9, 113:21, 139:6, 140:10 glass 33:20 global 91:2 go 9:14, 21:17, 28:11, 36:9, 37:3, 50:22, 55:8, 60:15, 62:16, 67:19, 71:18, 79:7, 85:4, 95:22, 104:17, 108:14, 117:15, 118:7, 124:2, 125:1, 125:21, 126:2, 126:20, 127:7, 127:17, 129:5, 130:15, 130:20, 131:20, 135:5 goal 120:21 goes 20:7, 21:8, 45:2, 45:8, 57:9, 57:11, 112:13 going 9:11, 10:17, 11:1, 23:3, 23:20, 24:8, 27:8, 55:1, 55:2, 62:22, 67:2, 67:13, 69:8, 81:11, 84:12, 87:14, 95:11, 95:14, 99:13, 136:19 good 6:6, 6:7, 47:11, 48:11, 67:3, 95:3,	133:7 graphic 94:5, 94:7 graphically 94:18 gray 114:15, 120:7 great 39:22, 60:16, 102:20 grounds 122:5, 127:22, 128:22 guess 8:19, 9:11, 19:15, 36:2, 36:13, 72:3, 72:19, 101:7, 112:15, 113:17, 120:1 guessing 123:21 guide 38:20, 38:22 H half 95:13, 95:17 hand 111:10, 120:21, 141:9 hard 32:19 hatfield 3:21 heading 95:2 held 33:7 helpful 37:3 helps 18:12 hence 118:22 here 6:18, 9:6, 9:10, 9:15,	9:16, 9:17, 23:6, 24:12, 28:18, 31:6, 31:7, 31:10, 31:17, 31:19, 32:3, 32:5, 34:4, 34:18, 35:12, 36:2, 36:4, 39:16, 44:19, 47:5, 49:4, 50:3, 52:13, 53:13, 53:21, 54:11, 57:10, 57:16, 58:7, 59:6, 62:5, 64:9, 65:9, 66:16, 73:20, 77:1, 78:8, 78:22, 82:11, 83:18, 84:12, 85:2, 86:2, 98:9, 101:4, 105:20, 109:7, 109:19, 119:4, 119:7, 119:19, 127:3, 127:19, 132:3, 132:18, 134:4, 136:2 hereby 139:2, 140:3 hereinbefore 140:6 hereunto 141:8 high 57:6, 58:5 high-level 56:13, 56:14 highlight 60:4, 60:7, 60:11 highlighted 60:17, 61:12, 61:22, 63:8, 67:10, 67:21, 68:5, 68:9, 111:15, 120:18	highlighting 60:18, 68:3, 124:4 himself 38:12 hinges 85:20 histories 12:10 history 15:14, 103:12, 105:1, 105:22, 106:4 hold 23:5, 126:21, 135:11 home 6:19 honest 16:8 hong 3:12 hopefully 24:11 hopes 120:22 hour 55:2, 95:13, 95:17, 95:19, 95:22 however 45:3, 100:3, 120:2 humphrey 1:13, 2:1, 4:2, 6:2, 6:6, 6:10, 8:19, 11:5, 17:6, 62:20, 63:20, 66:11, 106:9, 107:20, 120:14, 124:9, 124:20, 126:5, 127:10, 130:4, 139:2, 140:5, 140:17 hundreds 67:1 hypothetical 78:7, 78:9,
--	--	---	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

154

78:12, 78:17, 81:4	69:9, 70:1, 81:18, 83:12, 85:7	inorganic 76:1	43:6, 46:11, 49:14, 51:1, 51:9, 68:14, 78:20, 108:21, 110:19, 110:21, 111:16, 120:19, 123:14, 136:15
I		insights 33:14	
idea	including 59:17, 73:17, 75:12, 119:17, 131:14	intend 66:14	
47:11, 68:14, 120:18, 120:20, 121:21	incomplete 86:19	intended 30:15	inventors 40:11, 40:14, 41:8, 70:6, 72:7, 72:13, 73:3, 73:16, 74:5, 76:6, 81:15, 82:5, 83:17, 103:16, 103:22, 104:2, 105:13, 114:17, 121:10, 123:4
ideas	inconsequential 116:10	intent 31:16	
41:18, 59:8, 59:12, 121:15, 122:13	incorporated 120:3	interested 141:5	
identification 65:20, 124:7	incorrect 97:14	interject 62:5	
identified 73:8	independent 102:22	international 1:9, 140:13	
identify 15:17	indicate 82:5, 126:17	interpret 31:14, 33:11, 35:4, 81:9, 93:1	
identifying 42:13	indicates 82:19	interpretation 30:13, 31:7, 34:22, 75:4, 77:6, 87:1, 88:4, 96:5, 97:6, 98:4	investigated 122:3
illustration 93:12, 93:14	indicating 29:22, 74:4		invoke 101:21
immediately 125:7	indication 65:9, 101:16		invoking 88:19
impacted 87:8, 87:19	individual 27:19, 105:12	interpreted 74:13	involve 59:1, 114:14, 117:19
implicit 102:8	individuals 29:1	interpreting 31:6	involved 74:6, 74:20, 77:19, 114:19
implicitly 102:6	inert 29:10	interrupted 86:6	involves 57:16, 82:6, 115:1
implying 30:2, 111:11	information 21:13, 21:20, 22:7, 22:9, 22:11, 23:14, 23:17, 24:3, 24:4, 24:15, 24:20, 31:18, 33:2, 33:5, 33:7, 33:9, 33:15, 43:9, 43:12, 120:15	introduce 65:14	involving 39:10
inaccurate 87:10		introducing 49:1	ipr 1:6, 7:14, 7:15, 8:6, 12:11, 16:2, 126:4, 126:18
inappropriate 62:9, 62:19		invention 18:21, 19:1, 20:6, 20:17, 22:2, 22:4, 65:6, 68:16, 69:4, 74:19, 81:16, 81:18, 88:16, 89:5	irell 3:13
inc 4:10, 140:13	ink-jetting 40:8	inventor 31:5, 39:8, 39:13, 39:18, 40:2, 40:17, 42:10, 42:14,	irregular 89:14, 91:12, 92:2, 92:13, 92:21
include 50:3, 65:1, 74:10, 79:2, 82:22, 84:22	inkjet 50:5, 121:8		irregularities 92:4
included 40:7, 73:10, 82:20, 121:8	inkjetting 63:14		
includes 13:22, 22:19, 29:4, 40:14,			

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

155

issue 12:10, 26:7, 64:18, 67:17, 72:19, 100:14	91:5, 94:17, 95:19, 95:20, 100:18, 102:20, 106:12, 110:6, 110:8, 111:2, 112:17, 115:13, 119:15, 121:22, 122:3, 123:2, 123:15, 125:2, 125:16, 132:2, 134:20, 135:15, 135:16	last 9:16, 11:8, 25:3, 41:22, 73:15, 120:12, 120:17, 122:9	65:13, 66:17, 67:2
issues 29:17, 34:6, 34:18, 34:20, 78:14, 132:20	knowing 67:15	late 19:21	less 95:19, 95:21
itself 22:2, 72:16, 88:17, 94:15, 135:19	knowledge 10:11, 36:1, 36:3, 36:5, 78:5	law 66:16, 67:3	let's 27:4, 36:9, 38:13, 42:22, 50:22, 95:22, 112:20, 125:17, 126:2
J	known 21:14, 21:20, 22:3, 22:7, 22:11, 23:18, 24:4, 24:22, 25:2, 31:18, 31:20, 33:3, 33:4, 71:4, 75:17, 75:20, 77:15, 77:18, 83:6, 123:1, 123:22	lawyer 66:11, 67:16	level 57:6, 58:6
jeremy 3:21	kurt 1:13, 2:1, 4:2, 6:2, 6:10, 139:2, 140:5, 140:17	layers 20:4, 21:5, 25:6, 25:10, 25:14, 25:17, 25:19, 25:22, 26:2, 26:4, 34:15, 41:1, 76:1, 88:12, 89:6, 89:7, 93:5, 107:2, 131:2	lift-off 48:17, 49:11, 50:19
job 1:20	label 93:7, 99:11	leading 129:20, 131:4, 134:8, 135:3, 138:3	light 56:5, 102:16
K	labeled 15:3, 93:5	leaks 116:6	likely 117:12, 122:6
karl 28:16	labs 4:10, 66:19	least 11:2, 20:8, 36:16, 41:17, 43:2, 43:13, 47:1, 47:3, 51:7, 57:6, 86:19, 95:12, 95:17, 96:10, 96:18, 105:2, 111:9, 115:6, 116:20, 127:21	limit 26:2, 38:18, 58:17
keep 46:15, 47:22, 66:14, 95:14, 122:10	language 67:4, 67:10, 127:14	leave 52:15, 62:17, 99:3	limitation 32:2, 52:5, 92:3, 92:22
keeping 40:4, 45:4, 122:15	large 74:16	leaving 56:21, 59:14, 112:6	limitations 26:3, 30:3
kijima 127:20, 128:20	larger 33:20	left 42:4, 58:20	limited 35:9, 41:15
kind 32:12, 50:19, 114:15		legal 65:1, 65:7,	line 19:15, 19:18, 23:21, 32:15, 46:21, 52:14, 55:3, 57:9, 67:16, 76:6, 94:14, 109:2
know 7:11, 14:9, 16:14, 16:16, 16:17, 18:15, 26:1, 33:10, 34:3, 34:5, 47:14, 48:20, 48:21, 59:10, 59:15, 59:16, 62:11, 62:19, 67:15, 71:11, 73:6, 75:17, 78:4, 82:18, 91:1, 91:4,			lines 19:18, 19:19, 21:7, 40:6, 48:1, 48:2, 48:11, 49:3, 52:16, 55:9, 112:7, 122:15
			liquid 46:3, 46:5, 50:20, 55:14, 56:10
			list 15:13, 15:17,

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

156

15:21 listed 69:4 literally 119:5, 119:13 literature 73:2 lithographic 137:4 litigation 15:13, 15:19 little 67:22, 68:1, 76:18, 106:16, 107:19, 114:16, 120:6, 133:6 llp 3:5, 3:13 lml 29:4, 29:7, 29:10, 29:15, 30:8, 30:10, 30:17, 39:9, 41:3 load 134:10, 136:5 loaded 134:11, 136:8 localized 91:1 located 6:17 locations 113:1 long 9:16 look 39:5, 48:17, 62:10, 67:18, 83:19, 124:15, 132:12 looked 69:9, 72:2 looking 23:9, 35:13, 37:17, 42:20, 46:20, 55:22, 64:15, 69:17,	70:13, 80:11, 82:13, 85:3, 87:22, 108:1, 115:10, 115:11, 115:12, 122:9, 126:12, 135:12, 135:20 looks 32:12, 78:20 los 3:16 lost 22:16 lot 11:2, 58:5 M machinery 110:17 made 21:22, 34:11, 105:15, 133:22 magnetic 101:11, 101:13 main 109:3 majority 78:4 make 8:15, 14:19, 39:15, 58:15, 90:18, 102:16, 107:19, 111:8, 114:4 making 82:9 manella 3:13 manner 50:14 manufacturing 33:21 many 16:9, 25:10, 25:22, 29:17, 34:20, 119:16 mapping 41:18	mark 65:18, 124:3 marked 4:6, 4:13, 5:1, 8:17, 9:3, 10:2, 10:19, 10:20, 17:1, 27:6, 65:20, 66:2, 66:17, 107:13, 124:7, 125:14, 130:17, 134:18 marriage 141:3 mask 40:8, 40:9, 45:10, 45:17, 45:22, 46:7, 46:8, 46:9, 46:15, 48:5, 50:4, 50:16, 50:18, 51:22, 52:2, 52:8, 53:7, 55:15, 56:2, 57:17, 58:9, 59:4, 59:22, 61:13, 63:11, 63:12, 101:12, 101:13, 112:5, 112:14, 112:15, 112:19, 114:21, 116:6, 116:7, 116:18, 117:5, 117:10, 118:7, 118:13, 119:9, 137:12 masking 40:5, 44:12, 48:1, 48:10, 50:8, 50:15, 54:15, 63:2, 63:5, 73:12, 136:16, 136:17, 136:21, 137:2 maskless 137:15 material 46:3, 46:7, 46:9, 53:11,	56:7, 56:8, 57:21, 58:3, 58:16, 58:17, 77:20, 79:6, 89:11, 89:12, 92:11, 98:11, 99:4, 102:2, 115:2, 115:15, 116:19, 117:12, 117:14, 118:15, 119:22, 127:21, 129:22, 130:8, 131:17, 133:16, 137:1, 137:16 materials 58:19, 59:17, 74:14, 117:9, 117:20, 123:20, 130:10, 137:18, 137:21 matter 8:2, 8:8, 8:13, 12:4, 13:2, 13:11, 13:16, 14:4, 17:14, 20:1, 26:6, 33:10, 38:7, 141:6 matters 7:14, 7:15, 12:13, 12:22, 15:18, 15:19 maybe 9:18, 18:22, 30:15, 37:19, 87:18 mean 6:22, 27:1, 31:22, 73:22, 76:15, 90:2, 100:21, 101:9, 110:10, 112:1, 114:8, 118:19, 123:9, 136:1 meaning 90:8 means 61:3, 65:6,
--	---	--	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

157

93:20, 98:10, 115:15 meant 47:2 meet 88:20, 119:5, 130:1, 131:15 meets 83:1, 85:21 mention 36:7, 49:11, 86:1, 86:9, 134:14, 135:2 mentioned 14:5, 125:9, 137:3 message 28:15, 28:21, 31:2, 32:8, 32:9, 32:15, 32:16, 32:18, 35:13, 35:15, 36:11, 39:19, 39:20 messages 27:19, 28:6 method 45:4, 47:8, 52:13, 74:6, 82:15, 114:10 methods 63:3 microelectronics 119:17 microscopic 91:20 middle 40:16, 40:20, 41:12, 42:9, 46:20, 54:7, 54:11, 54:14, 62:3, 63:13 might 68:3, 87:18, 117:6 mildly 90:22 minimum 25:14, 25:15	minute 71:21 minutes 22:17, 55:2, 124:15 misread 19:18 missed 64:22, 71:11, 81:20 misspoke 19:17 misstating 60:1 modified 110:1 moisture 76:2 moment 6:21, 23:9, 23:10, 24:9, 42:21, 55:20, 127:2, 132:13 moments 39:21 more 9:18, 25:19, 30:9, 55:6, 84:16, 85:15, 87:18, 88:3, 90:18, 91:17, 100:17, 103:1, 104:15, 108:20, 131:2, 138:6 morning 6:6, 6:7 most 15:12, 25:2, 46:21, 100:2, 116:4, 120:4, 122:18 mostly 116:9 mother 33:20 move 95:12 moving 79:10	much 61:5, 67:12, 91:19 multilayer 17:20, 17:21, 19:7, 20:3, 21:4, 47:10, 107:1, 134:7, 134:14, 135:2 multilayers 20:12, 83:7 multiple 47:18, 58:1, 58:12, 122:13 myself 7:5 N name 6:8, 11:10 narrower 114:12 nature 70:21 necessarily 22:3, 31:20, 33:4, 75:12, 83:12, 94:13, 94:14, 112:9, 112:11, 123:11 need 7:5, 14:17, 18:7, 27:1, 37:13, 62:20, 98:12, 99:4, 109:14, 110:18, 115:17, 117:6, 117:7, 124:15, 130:4, 135:19 needed 56:22, 58:18, 123:2 needs 28:8, 82:9, 90:15, 109:22 neither 86:3 never 31:5, 123:16	new 16:20, 65:16, 95:12, 120:12, 124:3 next 16:1, 36:9, 47:9, 47:22, 48:15, 103:20, 131:7 noncross-linked 56:8 nonetheless 97:5 nonphotolithogra- phic 61:3 nonselective 39:9 normal 118:16 note 105:1, 109:1, 117:4 noted 82:18 notes 124:15 nothing 138:6 notice 2:5 noting 101:12 number 7:19, 7:20, 18:8, 25:14, 25:15, 26:2, 26:4, 63:10, 69:13, 73:5, 74:14, 74:16, 127:5 numbers 19:18 numeral 64:4, 84:7, 99:16 nw 3:7
--	---	--	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

158

O	64:17	84:11, 84:14, 85:14, 88:7, 98:22, 99:20, 101:7, 112:16, 122:4, 136:4	25:18, 30:21, 34:12, 40:12, 40:15, 41:9, 41:15, 44:20, 45:14, 46:13, 47:5, 50:3, 51:20, 52:20, 53:4, 53:8, 53:11, 53:13, 54:18, 54:22, 55:14, 56:1, 56:3, 56:10, 56:17, 56:21, 57:5, 57:12, 57:21, 58:2, 58:7, 58:16, 58:22, 59:2, 59:17, 60:19, 61:2, 61:9, 61:17, 61:20, 63:5, 63:9, 76:1, 76:7, 76:13, 76:15, 77:20, 82:19, 83:16, 107:3, 109:7, 109:15, 110:2, 111:17, 111:21, 112:10, 112:12, 112:16, 112:22, 113:4, 113:8, 113:13, 114:1, 114:22, 116:14, 116:18, 116:21, 118:13, 137:18
object	offering	open	original
23:20, 38:4, 93:16	38:6, 64:9, 78:19	7:3, 9:6, 9:8, 9:15, 9:21, 24:12, 59:14, 66:8, 126:13, 132:18, 134:20, 134:22	32:9, 32:15, 39:20, 126:22
objecting	offhand	open-ended	originally
38:17	135:15	30:9, 37:19, 104:18	109:5
objection	office	opening	originator
12:18, 12:19, 13:7, 19:9, 19:13, 20:15, 20:21, 24:6, 25:12, 28:22, 29:13, 30:12, 31:4, 35:3, 38:19, 41:2, 48:22, 58:11, 59:7, 60:1, 62:1, 64:21, 75:14, 79:16, 83:3, 83:14, 107:8, 129:20, 131:4, 134:8, 135:3, 138:3	1:1, 105:16, 105:17	9:16, 117:10, 125:19	35:21
objections	often	opine	other
38:13, 38:16, 39:1	99:3	67:3	7:1, 7:19, 12:13, 36:7, 58:9, 59:21, 61:19, 67:2, 71:6, 84:16,
observation	oh	opinion	
88:16	72:1, 73:1, 74:2, 78:3, 104:11, 105:8, 126:12, 129:13, 135:18	4:10, 13:1, 40:20, 64:18, 76:11, 78:11, 78:19, 78:22, 82:13, 102:6	
obvious	oled	opinions	
61:6	76:3, 112:5, 119:17	12:12, 26:6, 38:1, 38:6, 64:9, 70:5, 71:1, 77:1, 80:18, 84:21, 84:22, 86:14, 87:4, 96:18	
obviously	oleds	opposed	
26:3, 31:17, 48:15, 77:13	123:3	116:10	
obviousness	one	optimal	
84:19	3:6, 7:19, 8:12, 8:14, 11:13, 13:13, 14:20, 21:3, 23:2, 23:9, 28:6, 31:15, 36:7, 57:8, 57:14, 58:7, 58:14, 59:1, 63:10, 68:15, 72:16, 80:15, 86:6, 89:20, 101:7, 104:15, 105:2, 112:21, 120:11, 121:5, 121:6, 121:12, 122:4, 129:7, 131:2	59:16, 122:19, 123:6	
occurred	one-page	option	
140:17	108:15	30:14, 57:19	
october	ones	options	
1:15, 140:18, 141:9, 141:12	122:18	31:11	
off-the-shelf	only	order	
111:5	70:18, 72:5, 72:11, 78:3,	49:1, 122:17	
offer		organic	
70:5, 95:10, 96:1		20:4, 21:5, 22:20, 25:7,	
offered			
12:12, 12:22,			

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

159

85:14, 86:20, 87:7, 94:18, 100:4, 100:17, 102:13, 102:22, 111:3, 112:6 others 18:9 otherwise 141:5 out 24:10, 78:6, 90:16, 103:20, 105:14, 125:5 outcome 141:6 outgassed 29:11 over 9:15, 55:16, 58:20, 85:7, 105:3, 110:7, 110:22, 112:5, 131:9, 131:14, 131:15 overall 89:21 own 18:11, 132:8 owner 1:10, 3:11, 16:12, 124:18 oxide 131:2, 131:8, 131:13 oxygen 76:2, 137:17	64:3, 67:8, 68:8, 68:12, 69:9, 72:1, 85:2, 100:10, 118:18, 124:3, 126:3, 126:7, 126:8, 126:15, 126:22, 127:1, 127:17, 128:15, 135:6, 135:9, 135:14 pages 1:21, 15:14 panels 33:21 paragraph 19:16, 19:22, 21:2, 22:1, 22:18, 22:22, 23:3, 23:7, 24:14, 25:1, 25:5, 26:11, 27:15, 39:6, 64:9, 68:11, 69:4, 69:8, 70:1, 70:16, 71:9, 73:14, 73:16, 76:4, 78:22, 79:8, 79:13, 81:5, 81:6, 83:2, 83:13, 83:19, 83:20, 85:4, 86:2, 86:17, 87:6, 87:12, 88:5, 88:11, 88:18, 89:10, 92:8, 93:4, 94:22, 96:4, 96:13, 97:1, 98:9, 99:1, 99:14, 101:8, 101:12, 101:20, 102:6, 102:16, 103:7, 103:15, 103:20, 104:22, 105:6, 105:11, 106:12, 106:18,	107:18, 107:21, 108:1, 116:22, 117:4, 125:1, 125:9, 125:22, 126:20, 127:7, 127:8, 127:11, 127:13, 127:14, 128:7, 129:5, 129:6, 129:11, 130:20, 131:5, 132:4, 132:5, 133:10 paragraphs 21:10, 21:13, 22:6, 22:10, 23:15, 23:17, 24:4, 24:16, 24:17, 24:21, 79:11, 87:22, 96:8, 105:21, 129:15, 131:21, 132:8, 133:14 paraphrasing 117:8 pardon 24:7 part 15:12, 22:1, 36:10, 37:2, 37:22, 51:7, 57:20, 81:20, 82:3, 89:4, 102:6, 106:17, 115:6 partial 47:7 participants 35:12 particles 101:15 particular 26:14, 28:21, 49:3, 78:21, 85:18, 86:10, 95:6, 95:8, 98:4, 100:7, 112:10, 114:17, 120:20, 121:9,	122:2 particularly 90:12, 100:12, 111:2 parties 77:14, 86:7, 88:2, 88:15, 141:2, 141:4 parts 60:17 party 140:12 pass 138:5 passages 38:9 passing 124:11 pasting 104:22 patent 1:1, 1:2, 1:7, 1:10, 3:11, 7:16, 12:9, 12:13, 13:1, 13:4, 13:6, 15:19, 16:12, 17:11, 17:13, 17:17, 18:1, 18:18, 21:7, 21:10, 21:15, 21:19, 23:10, 23:18, 24:2, 24:8, 24:21, 25:5, 70:10, 70:12, 70:19, 71:5, 71:7, 72:4, 72:6, 72:12, 72:14, 73:3, 75:1, 103:19, 106:22, 111:22, 113:4, 114:9, 124:18 pattern 49:9, 59:21, 114:6 patterned 50:20, 53:14,
P			
pads 52:16, 112:6 page 4:2, 4:8, 4:15, 5:2, 11:8, 16:1, 26:11, 26:13, 26:19, 27:9, 27:11, 28:10, 39:5, 39:21, 41:16, 42:1,			

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

160

53:22, 111:17, 114:3 patterning 49:6, 53:3, 58:6, 59:1, 59:6, 61:1, 61:8, 61:17, 61:20, 111:20, 114:7, 114:9, 114:18, 116:11, 116:14 pdf 71:16, 126:22, 127:17, 132:13, 132:17 pending 18:16, 104:14 perfect 34:9 perfectly 29:17 perform 131:22 performed 117:13, 122:7 performing 30:4 perhaps 27:9, 75:21 permanent 68:15, 120:19, 121:20, 122:2 permanently 60:7 person 69:16 personally 123:20 perspective 69:20, 78:12 pertains 117:1 pertinent 46:22 petition 12:10, 13:16, 13:20, 86:8 petitioner 1:6, 3:2, 6:4,	16:3 petitioner's 117:17 petitioners 97:9 phone 7:5 photo 137:4 photograph 94:8 photolithographic 137:10 photolithography 48:16, 49:1, 49:4, 49:6, 61:8, 137:8 photoresist 49:9, 50:19, 137:9 phrase 19:21, 130:22 pichler 28:16, 29:1, 31:6, 32:16, 39:8, 39:18, 43:6, 51:1, 54:9, 54:19, 59:9, 61:6, 62:4, 65:22, 68:21, 69:2, 69:17, 70:14, 82:14, 108:21, 110:21, 111:16, 112:3, 118:1, 119:10 pichler's 51:9, 53:21, 78:21, 121:12, 123:14 pictiva 1:8, 140:13 pictures 94:6 pins 40:5, 45:4, 46:16 place 35:9, 106:18	placed 9:2, 17:4, 46:8, 117:5, 117:11 places 57:12, 96:11, 100:4, 113:14, 114:22 plain 86:12 plaintiff 12:21 plan 120:22, 122:20 planar 61:9, 89:12, 90:18, 92:12 planarization 22:20, 36:21, 40:12, 40:15, 40:22, 41:5, 41:10, 41:15, 44:21, 49:21, 51:20, 53:11, 53:18, 53:21, 54:18, 56:1, 56:4, 56:17, 56:21, 58:2, 59:18, 63:5, 73:18, 74:6, 74:11, 74:12, 74:21, 74:22, 75:5, 75:7, 75:12, 75:16, 76:8, 76:14, 76:15, 76:17, 76:21, 77:7, 77:21, 79:2, 79:5, 79:16, 80:1, 80:3, 80:6, 80:13, 80:19, 81:4, 81:19, 82:1, 82:6, 82:10, 82:16, 82:20, 83:1, 83:12, 84:3, 84:16, 85:1, 85:12,	85:16, 85:20, 86:11, 86:14, 87:9, 87:20, 88:6, 88:13, 89:7, 89:19, 89:20, 90:15, 90:20, 90:21, 91:2, 91:5, 91:8, 91:15, 91:17, 92:1, 95:6, 100:1, 105:3, 108:7, 128:21, 129:2 planarizing 79:7, 89:11, 90:6, 90:22, 91:4, 92:10, 108:3 planet 108:18, 118:18, 120:10, 124:1, 127:16 plasma 52:19, 137:17, 137:18 play 100:2, 100:5 please 6:9, 7:11, 11:1, 17:3, 18:13, 23:12, 28:13, 37:13, 38:12, 38:13, 38:18, 41:6, 43:15, 46:20, 51:1, 54:13, 55:8, 60:3, 62:2, 62:5, 62:20, 64:3, 65:15, 67:9, 71:19, 76:20, 80:10, 93:18, 100:10, 103:8, 106:11, 107:18, 107:19, 113:6, 118:18, 120:11, 124:20, 125:1, 125:13, 125:21,
--	--	--	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

161

126:20, 127:7, 127:10, 127:16, 130:6, 130:15, 131:20, 133:3, 133:5, 133:6, 133:8, 134:6 plural 105:5, 105:10, 105:18, 105:20, 106:3 pml 17:19, 18:17, 19:7, 20:7, 20:19, 21:4, 21:9, 22:19, 25:10, 29:2, 29:18, 30:6, 30:11, 30:15, 30:18, 31:2, 34:7, 34:18, 34:21, 35:8, 39:9, 40:12, 40:16, 41:3, 41:10, 70:2, 70:6, 70:15, 71:2, 71:3, 71:8, 71:14, 72:5, 72:11, 72:22, 73:17, 74:4, 74:10, 74:17, 75:11, 76:8, 77:19, 79:2, 82:17, 83:10, 83:11, 83:16, 106:19, 107:1, 108:9, 108:10, 108:13, 133:20, 134:6, 134:14, 135:2 pmls 24:20, 82:22 point 14:17, 26:14, 37:1, 38:9, 52:3, 70:9, 72:11, 74:3, 103:20 pointed 36:19, 105:13	pointing 42:8, 43:9, 43:13, 43:16, 44:20, 49:18 points 21:22 polymer 17:20, 17:21, 19:6, 20:2, 20:12, 21:4, 83:7, 107:1, 134:7, 134:14, 135:2 portion 56:11, 56:12, 61:11, 68:6, 112:16 portions 68:10, 131:10 posita 31:13, 31:20, 33:4, 33:10, 33:12, 35:1, 35:4, 40:10, 41:8, 69:3, 69:21, 70:13, 72:9, 72:18, 72:20, 73:4, 73:13, 75:11, 75:15, 76:5, 77:8, 77:12, 77:16, 78:4, 78:6, 78:8, 78:9, 78:12, 78:13, 78:17, 78:18, 78:20, 79:1, 79:15, 79:19, 81:2, 81:9, 82:19, 83:9, 83:11, 83:15 positas 78:4 position 96:22, 98:10, 99:2, 115:14 possible 124:3	possibly 32:19 post 100:14, 134:3 post-deposition 49:8 posted 125:12, 130:16, 134:16 potential 35:7, 121:6 practical 26:3, 121:17 practice 38:19, 38:21, 48:11 preceding 72:14 preclude 130:9 preferable 46:12 preparing 12:7 present 3:20, 30:3 presented 24:21 presents 21:19, 22:9, 24:3 prevent 56:6, 118:14 previous 44:4, 53:16, 57:19, 123:10 previously 8:17, 10:20, 17:1, 27:6, 44:15, 82:18, 107:13, 123:13, 125:14, 130:17, 134:18 primarily 18:22, 85:8, 85:15 principles 46:1	printing 40:9, 49:14, 50:4, 121:8 printout 43:3 prior 4:13, 5:1, 22:4, 23:14, 25:2, 53:12, 71:4, 71:5, 73:2, 79:21, 79:22, 80:11, 98:3, 99:7, 102:13, 114:11 probably 7:4, 18:8, 32:2, 32:4, 35:4, 47:16, 65:7, 93:3, 95:12, 96:8, 119:13, 120:2, 123:22, 132:7 problem 101:6, 120:21, 121:6, 121:10, 122:2, 122:14 problems 22:13 proceeding 8:20, 126:4, 126:9, 126:11, 126:18 process 12:6, 30:15, 30:21, 30:22, 47:14, 49:20, 53:12, 53:17, 54:1, 56:8, 58:19, 113:7, 122:16, 137:5, 137:15 processes 33:18, 36:6, 123:1, 123:13 processing 30:4, 30:5, 49:1, 109:21, 120:2, 120:8
---	--	--	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

162

product 94:15	120:14	23:2, 23:11,	R
production 119:17	providing 13:9, 31:13,	23:14, 24:2,	raised 44:7, 103:16
promising 48:17	62:13	24:13, 24:19,	rather 89:13, 92:12,
pronunciation 110:5	ptab 75:19	37:5, 37:7,	94:5
propagation 86:5	public 2:6, 140:2,	37:20, 38:3,	rationale 99:22
proposals 39:13, 40:3,	published 141:18	38:5, 38:12,	reach 69:18
57:4	pull 74:18	41:6, 43:15,	read 28:1, 28:13,
propose 45:9, 59:20	pulling 18:11, 42:22,	44:6, 44:11,	39:17, 40:13,
proposed 30:10, 30:14,	120:11, 124:20	46:22, 47:1,	46:17, 67:12,
31:1, 34:17,	purpose 52:12, 75:22	47:2, 51:6,	67:21, 68:1,
47:4, 58:13,	pursuant 2:5	54:15, 54:17,	68:9, 104:12,
59:6, 63:13,	pursue 111:9, 120:22	54:20, 55:3,	104:14, 139:3
63:15, 128:20	put 10:17, 17:4,	60:3, 60:5,	reader 31:21
proposes 47:21	27:9, 37:11,	63:2, 70:22,	reading 84:13, 87:11
proposing 30:8, 45:16,	58:2, 66:9,	72:18, 76:18,	reads 61:12, 68:12
47:19, 51:18,	70:15, 86:12,	77:10, 79:18,	real 85:13
63:4	107:15, 108:17,	79:20, 80:10,	realistic 94:5
prosecution 12:10, 103:12,	118:17	81:14, 81:21,	really 32:6, 36:2,
103:17, 105:1,	Q	90:3, 92:6,	49:7, 59:12,
105:14, 105:22,	qualifies 56:20, 59:10,	92:7, 97:11,	60:9, 62:8,
106:3	78:13	97:19, 104:13,	62:9, 85:8,
protect 76:3	qualify 35:18, 56:16,	104:14, 104:16,	121:15
provide 19:6, 53:17,	74:22, 76:16,	107:22, 109:21,	reason 6:14, 71:12,
69:13, 76:1,	78:1, 82:10,	113:6, 120:12,	85:13, 109:5
79:8, 80:18,	111:21, 113:3	130:5, 130:6,	reasonable 45:3
88:8, 105:22	quantify 100:19	130:13, 134:13,	recall 16:7, 16:8,
provided 13:3, 13:5,	quantitative 95:6, 95:7,	136:14	16:19, 47:2,
13:10, 16:11,	95:16	questioning 67:20	125:4, 125:8,
17:14, 19:10,	quantities 99:3	questions 8:16, 11:2,	133:19, 136:9
26:6, 26:18,	question 18:15, 21:1,	18:8, 23:21,	receive 7:10
43:13, 71:1,		27:8, 55:6,	recess 63:18, 106:7,
77:20		60:8, 62:6,	
provides 15:13, 68:21,		66:15, 98:17,	
		99:14, 108:20,	
		113:18, 124:10,	
		138:4	
		quick 132:11	
		quite 47:7, 53:20,	
		74:15	
		quote 25:5, 89:11,	
		103:11	
		quoting 88:18	

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

163

124:17 recipient 33:8, 35:22 recognize 9:9, 10:5, 11:11, 11:14, 17:9 record 6:9, 9:19, 16:21, 22:14, 27:5, 53:9, 62:16, 107:10, 128:16, 134:1, 138:7, 140:9 refer 8:6, 14:12, 17:16, 20:22, 34:10, 37:10, 37:18, 93:3, 96:11, 96:16, 101:20, 105:15, 123:9 reference 10:18, 34:20, 37:15, 70:11, 72:1, 72:2, 73:5, 79:21, 79:22, 80:5, 80:8, 80:12, 83:10, 84:14, 86:8, 88:5, 88:10, 89:7, 93:9, 101:8, 101:11, 101:12, 102:12, 102:21, 103:8, 103:13, 117:2, 134:5 referenced 39:8, 86:3, 86:11 references 71:15, 71:20, 72:5, 74:4, 80:15, 85:11, 101:3, 102:9 referencing 72:3, 129:15 referred 26:4, 32:3,	33:2, 34:6, 34:18, 35:11, 36:2, 53:13, 54:3, 54:10, 76:13, 116:2, 116:3 referring 8:7, 14:15, 14:19, 19:2, 19:22, 33:5, 37:16, 39:19, 42:5, 42:17, 45:13, 47:14, 48:4, 48:21, 54:8, 55:20, 81:10, 82:15, 96:7, 100:6, 101:22, 105:6, 105:21, 109:21, 110:16, 119:8, 136:11, 136:13, 136:14 refers 57:20, 82:17, 91:17 reflecting 92:12 reflects 89:14 regarding 24:13, 96:2, 136:15 regional 91:2 regions 98:14, 115:19 rejections 104:3 relate 105:18 related 141:1 relates 40:16, 122:1 relating 7:15, 8:20, 20:7, 20:12, 21:9, 24:20,	26:7, 35:16, 38:5, 47:17, 49:19, 64:18, 100:12, 106:3 relation 83:7 relevance 12:18, 13:7 reliably 101:18 relied 38:1 remain 15:11, 115:3 remainder 32:20, 48:9 remaining 56:12 remember 71:15, 111:18, 120:13 reminder 7:4 removal 59:4, 98:13, 112:22, 114:14, 115:1, 115:18, 115:22, 117:6, 117:7, 117:12, 117:20, 118:20, 118:21, 118:22, 130:9 remove 49:10, 98:13, 112:17, 115:18, 116:4, 116:18, 117:13, 119:21, 137:19 removed 56:12, 99:4 removes 137:16 removing 53:7, 53:12, 114:22, 115:2, 116:11 repeat 23:11, 41:6,	43:15, 80:10, 104:15, 113:6, 130:4, 130:6 repeating 20:3, 21:5, 25:6, 107:2 rephrase 76:19, 97:19 replicating 93:6 reply 32:17 report 20:22 reported 1:22 reporter 130:3 reports 13:3 represent 66:22 representation 94:1, 94:4, 94:7, 94:11 representative 20:16, 94:19, 94:20 represented 140:14 represents 25:1 reproducing 91:10 require 91:7, 95:5, 95:8 required 86:7, 120:8 requirement 80:1, 81:19, 88:20 requires 79:6, 81:22, 91:10, 92:1, 137:8 requiring 97:18
--	---	---	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

164

research 120:22, 122:20, 122:22 researched 74:15 residues 116:5, 116:7, 137:19 resist 137:11, 137:12 respect 13:1, 22:5, 40:22, 58:22, 78:14, 85:18, 86:14, 88:8, 123:15 responded 39:13, 40:3 respondent 31:19, 33:3 responding 51:6, 54:20, 62:4, 63:1 response 44:10, 51:9 rest 20:8, 28:2, 85:11, 87:15 restricted 35:10, 88:14 resulting 101:17 retained 12:3 review 12:9, 13:16, 13:19, 37:13, 127:10, 132:7, 132:8 reviewed 14:6 right 6:18, 10:3, 12:6, 27:20, 41:21, 42:19, 43:6, 44:22, 49:16, 49:22, 50:5, 57:12,	57:17, 62:15, 64:11, 64:15, 65:3, 65:12, 68:8, 68:12, 70:3, 70:7, 70:20, 71:2, 71:6, 72:15, 74:11, 75:2, 75:8, 76:11, 77:1, 77:4, 78:8, 78:15, 79:3, 79:7, 79:14, 79:18, 80:3, 80:9, 80:13, 80:16, 80:19, 80:22, 81:5, 81:12, 81:16, 81:19, 82:1, 82:7, 82:16, 84:4, 85:1, 86:12, 86:15, 86:19, 88:7, 88:9, 89:16, 89:19, 91:13, 92:14, 92:18, 93:8, 96:6, 96:9, 96:13, 97:1, 97:18, 97:21, 98:1, 98:5, 98:7, 100:8, 103:13, 103:17, 103:22, 104:4, 104:9, 105:5, 105:14, 106:20, 108:5, 108:8, 109:10, 110:3, 110:17, 113:1, 113:8, 113:9, 113:11, 113:15, 113:21, 113:22, 115:7, 115:20, 116:15, 117:15, 119:4, 126:9 role 12:16 roll 57:9, 57:22,	112:3, 113:7 rolling 122:10 roman 64:4, 84:7, 99:16 roughness 91:14, 91:19, 91:21, 92:17, 92:21, 92:22 row 43:14, 43:18 running 66:1, 137:9 S s 83:13 said 33:11, 38:10, 41:4, 92:16, 105:3, 105:4, 105:19, 116:13 same 57:20, 70:14, 74:9, 96:21, 99:22, 117:21, 118:6, 139:4 samsung 1:4, 16:2, 86:3, 96:11, 99:8, 115:6 satella 109:13, 110:3, 110:6, 110:8, 110:12 satisfies 75:13, 80:1, 80:8, 83:13, 108:12 satisfy 107:7, 108:7 save 9:12, 9:14, 66:8 say 14:14, 14:17, 21:16, 32:19,	41:3, 45:2, 45:8, 56:14, 57:9, 57:11, 62:22, 84:6, 86:17, 87:19, 88:20, 92:20, 96:17, 105:13, 108:6, 111:6, 112:11, 114:16, 117:16, 119:7, 136:19 saying 41:7, 44:14, 48:13, 51:11, 54:6, 58:4, 88:19, 94:2, 97:7, 98:6, 102:4, 106:22, 121:14, 122:9 says 28:15, 29:16, 32:9, 34:19, 42:4, 47:9, 48:15, 50:7, 52:15, 52:18, 55:14, 87:7, 92:21, 99:15, 109:5, 115:13, 120:18, 121:12 scale 91:20, 94:10, 94:12, 94:19 schematic 93:8, 93:10, 93:13, 93:17, 93:18, 93:22, 94:2, 94:3 scope 38:4 screen 10:18, 11:1, 17:4, 18:7, 18:11, 23:6, 27:3, 27:10, 28:9, 35:14, 36:17, 37:12, 40:8, 40:17, 43:2, 46:17,
---	---	---	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

165

50:5, 60:15, 66:10, 107:16, 108:18, 121:7, 132:3, 132:21, 136:2 screens 24:12 scribe 40:6, 48:1, 48:2, 48:10, 49:3, 52:16, 112:6, 122:15 scribing 47:10, 47:16 scroll 36:10, 44:8, 46:19, 54:12, 68:3, 73:20, 133:1, 133:3, 133:4, 133:5, 133:6, 133:7 scrolled 11:8, 28:8, 133:4 search 71:14, 100:22, 123:5, 130:22, 134:6 second 23:5, 57:14, 61:11, 61:16, 95:11, 112:2, 131:1, 131:8 second-to-last 109:2 section 15:3, 18:4, 18:22, 19:1, 20:7, 64:3, 64:4, 65:2, 77:4, 84:7, 84:12, 84:15, 84:18, 85:5, 85:14, 85:15, 85:22, 86:18, 95:12, 96:7, 99:16, 99:20, 100:3, 100:5,	100:6, 100:9, 100:12, 100:16, 100:21, 102:10, 102:21, 103:2, 115:13, 125:9, 127:19, 128:2, 128:19, 129:1, 129:9 sections 84:17, 86:20, 86:22, 87:8, 100:17, 102:22, 125:5 secure 101:13 see 9:4, 9:7, 11:4, 15:4, 15:15, 16:4, 22:21, 23:4, 23:19, 25:8, 26:12, 27:11, 27:21, 28:2, 28:9, 29:5, 29:19, 32:10, 32:14, 32:15, 36:4, 42:2, 43:4, 43:22, 45:6, 45:11, 47:12, 48:18, 50:9, 51:3, 51:14, 52:22, 54:11, 54:13, 55:11, 55:17, 58:4, 60:21, 61:14, 62:20, 64:6, 66:4, 66:20, 68:17, 72:5, 73:19, 76:9, 83:21, 84:8, 86:8, 99:18, 100:22, 105:9, 107:5, 109:2, 109:16, 117:8, 117:9, 125:17, 125:18, 131:5, 131:11, 132:3, 134:4, 135:18,	136:1, 136:4 seeing 88:3, 101:3, 101:7 seem 9:21, 30:1, 35:22, 132:17 seemingly 111:8 seems 47:6, 57:4, 88:1, 88:21 seen 32:20, 33:1, 73:4, 123:22 sees 83:10 select 39:14 selected 101:8, 101:9, 101:18, 102:2 selective 36:8, 36:20, 40:6, 47:21, 48:3, 49:5, 49:19, 50:14, 52:13, 53:6, 53:17, 54:18, 54:21, 56:20, 99:2, 100:15, 104:8, 104:19, 112:8, 112:9, 112:18, 112:22, 113:19, 114:4, 114:10, 116:17, 117:16, 119:2, 122:14, 129:21, 130:11, 131:22, 136:22, 137:21 selectively 35:16, 40:3, 40:11, 40:15, 40:21, 41:9, 41:13, 49:20, 52:4, 52:9, 56:1, 56:3, 56:17, 59:16,	61:9, 76:7, 96:2, 96:6, 97:10, 98:10, 100:20, 102:5, 105:2, 111:21, 113:3, 113:10, 114:2, 114:13, 114:19, 115:5, 115:15, 117:18, 127:20, 128:3, 130:7, 131:16, 133:15 selectivity 53:18 self-aligned 114:21 sem 94:8 sense 65:8, 100:11 sentence 21:17, 25:3, 39:17, 40:13, 45:2, 47:9, 47:22, 48:9, 48:15, 51:17, 55:9, 57:20, 68:12, 73:15, 77:7, 89:5, 109:1, 112:2, 120:18, 122:9, 131:7 separate 109:13 separating 47:17 serious 121:16 serve 79:6 served 15:18 serving 7:15, 89:19 session 4:6 sessions 4:13, 5:1
---	---	---	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

166

set 32:3, 35:5, 35:7, 35:10, 36:5, 81:4, 99:13, 140:6, 141:8 sets 33:12, 34:2 setting 31:9 settled 120:20 shadow 40:8, 45:10, 45:17, 45:22, 46:6, 46:15, 48:4, 50:4, 50:16, 50:18, 51:22, 52:2, 63:12, 73:11 shape 90:10, 94:15 shapes 94:14 shared 65:16, 66:1, 66:2 sheet 139:7 short 116:8, 137:18 should 21:18, 29:16, 51:13, 71:16, 94:18, 94:20, 135:22 show 62:2, 62:3, 94:16, 100:3 showing 71:20 shown 93:4, 136:20 side 68:8, 68:12, 138:6 signature 139:10	signature-plkal 141:15 signed 139:7 significance 102:21 signifies 70:15 signify 51:16, 69:14, 71:2 silence 7:5 similar 99:13, 127:13 simple 137:17 since 23:21 single 78:6 sir 78:11 sitting 6:18 six 55:9 skill 69:16 skilled 68:15 skipped 55:16 small 99:3, 137:16 small-font 27:22 smooth 89:12, 90:18, 92:12 smoothing 77:21, 90:6 software 132:20 solution 29:11, 39:11, 120:20, 121:4, 121:5, 121:6,	121:9, 122:2, 122:4, 123:6 solutions 122:17, 123:5 some 9:18, 14:17, 19:21, 21:22, 24:7, 29:2, 30:2, 30:4, 30:5, 31:17, 33:22, 36:1, 36:5, 47:6, 50:19, 53:17, 55:16, 67:4, 67:10, 70:1, 77:20, 83:10, 86:20, 90:17, 91:21, 96:10, 96:18, 98:20, 103:11, 103:12, 109:22, 112:12, 116:7, 117:5, 117:11, 120:14 somebody 82:13 someone 39:2, 104:12, 123:19 something 7:11, 8:6, 14:18, 32:8, 37:13, 37:18, 54:8, 62:21, 65:11, 74:21, 80:8, 92:11, 92:17 sometimes 97:20 somewhat 35:9 sorry 16:2, 19:17, 22:17, 37:6, 39:22, 62:8, 72:2, 81:20, 87:11, 90:1, 104:10, 110:7, 126:12, 129:13,	132:4, 132:15, 132:17, 134:9, 136:17 sort 29:11, 98:18, 111:14, 115:9, 121:13, 122:8 sound 123:17, 123:18 sounds 122:20, 123:18 source 46:8 spans 69:9 spatial 90:13 speak 78:3, 78:5 speaking 38:13, 38:15, 89:8, 95:16 specific 34:2, 35:5, 37:2, 37:14, 38:9, 43:12, 75:20, 77:17, 87:8, 87:14, 87:20, 89:8, 114:22, 120:20, 123:11 specifically 20:1, 22:1, 35:17, 35:19, 36:8, 63:4, 99:16, 100:2, 115:11, 125:10, 128:3, 129:1, 129:10 specifics 77:16 specifies 30:20 speed 24:12 spilled-over 137:21 spin 31:10, 33:16,
--	--	--	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

167

44:12, 44:15, 45:18, 45:21, 46:2, 46:3, 46:12, 47:5, 50:8, 50:14, 50:17, 50:21, 51:12, 51:19, 54:16, 57:9, 63:2, 63:4, 73:11, 109:9, 109:13, 110:1, 110:13, 111:9, 112:3, 113:7, 116:20, 136:15, 136:16, 136:21, 137:2 spin-coating 30:21, 34:12, 40:9, 110:22, 111:4 spinning 29:10, 39:10, 46:4, 109:6, 109:9 spoken 31:5 spot 121:16 spots 101:8, 101:9, 101:19, 102:3 spray 118:19 springs 6:19 spun 57:22 sputter 57:10, 112:4 sputtered 51:21 sputtering 30:22, 31:11, 33:17, 34:14, 39:12, 52:7, 73:11 stamp 28:18, 35:14,	36:16, 43:2, 66:7 stand 10:14, 11:22 standard 65:10, 65:13, 67:5, 120:15, 121:2 standards 65:2 stars 3:14 start 95:3, 106:18 starting 69:7, 131:21 state 6:8, 21:3, 46:14, 84:2, 86:3, 88:11, 98:8, 104:1 stated 31:16, 33:13, 86:2, 89:4, 99:1, 109:18 statement 22:8, 28:4, 31:10, 41:7, 41:22, 76:4, 76:14, 87:6, 105:15, 105:17, 117:9 statements 34:10 states 1:1, 22:18, 47:7, 47:22, 52:14, 112:3, 131:7 stating 44:12, 48:22, 59:11, 87:13 step 59:4, 61:8, 90:9, 98:13, 114:19, 115:1, 115:18, 115:22, 116:2, 116:3,	116:9, 117:7, 117:12, 118:16, 118:21, 118:22 stepper 137:11 stick 52:18 still 111:15 stop 62:14, 95:11, 114:20, 133:10 straighten 24:10 straightforward 56:7 street 3:7 stressing 105:10 strictest 65:7 strictly 118:3, 119:13, 120:1 strike 23:1, 79:19 string 121:9 structure 17:20, 17:21, 22:19, 77:19, 79:2, 83:10, 83:11, 93:6, 108:13 structures 20:8, 30:6, 73:17, 74:10, 74:17, 90:14, 91:6, 91:18 stuff 67:13 subject 73:6, 75:3 submitted 8:10, 8:12, 10:7, 10:11, 11:17, 11:20,	13:19, 15:9 subramanian 14:1, 14:9, 86:4, 98:9, 115:14 subramanian's 96:12, 99:8, 102:7, 115:7, 117:18, 118:2, 118:4, 119:1, 119:12, 127:22, 128:4 subsequent 39:11, 59:4, 98:13, 114:14, 115:18, 117:12, 130:9 substantially 137:6 substantive 117:19 substrate 46:4, 46:5, 46:9, 46:10, 77:22, 85:7, 85:9, 90:6, 90:12, 91:3, 101:16, 108:4, 117:6, 117:11, 131:10, 131:14, 137:10 substrates 119:15 successive 93:5 sufficient 32:5, 69:3 suggest 112:14 suggested 110:19, 111:16 suggesting 46:11, 50:2, 53:5 suggestion 116:19 suggestions 59:21
--	---	---	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

168

suggests 55:13 suite 3:15 summarize 64:8 summarized 43:13 support 16:11, 106:1 supported 48:9 supporting 89:3 sure 29:8, 32:6, 39:15, 47:10, 66:9, 70:21, 71:20, 71:22, 77:10, 92:6, 112:8, 124:16, 133:12 surface 89:12, 89:13, 89:15, 90:10, 90:18, 91:13, 91:14, 91:19, 91:22, 92:3, 92:12, 92:13, 108:4 suzuki 128:21 switched 98:18 sworn 6:3, 140:7 symbols 94:5 system 94:4	55:4, 63:16, 67:18, 80:13, 95:15, 101:2, 106:5, 119:12, 132:11 taken 63:18, 98:9, 106:7, 115:14, 124:17, 140:8 taking 116:16, 116:17 talk 85:11, 97:20, 112:13 talked 55:20, 106:16, 110:7, 111:13 talking 29:2, 39:16, 67:5, 78:7, 97:21, 106:18, 108:16, 119:19, 119:20, 121:13 tautological 113:21 teach 98:3 teaches 80:8, 80:19, 85:1, 99:7 team 65:17, 66:1, 108:18, 118:18, 120:11, 124:2 tech 60:5, 65:17 technical 9:19, 22:14, 53:9, 73:5, 127:6, 128:16 technically 108:10 technician 3:21, 10:17, 60:6, 60:10, 60:14, 124:6, 132:22 technique 39:10, 48:17,	49:5, 49:7, 49:8, 51:12, 51:16, 51:19 techniques 40:7, 49:15, 50:5, 121:13 tell 132:22 telling 38:16, 62:10 ten 124:15 tenth 3:7 term 17:22, 18:17, 29:4, 67:7, 70:2, 70:5, 70:15, 71:2, 71:8, 72:11, 72:22, 73:1, 74:12, 96:6, 106:19, 110:17 terminology 96:15 terms 20:22, 59:19, 71:1, 72:9, 73:13, 85:12, 86:13, 93:1, 97:10 test 68:13 testified 6:3 testifying 7:14, 12:20 testimony 6:15, 10:10, 11:22, 13:1, 13:5, 13:9, 13:11, 14:7, 17:14, 57:7, 64:18, 139:4, 139:6, 140:9 text 67:21, 109:3 th 11:13	thank 7:6, 38:14, 46:20, 106:10, 127:9 thanks 96:16 theme 58:14 themselves 60:8 theoretical 26:1 therefore 118:14 thickness 95:8, 116:11, 137:13 thin 20:1, 21:3, 73:6 thin-film 33:17, 83:7, 85:10, 85:16, 123:3 thing 52:19, 136:3 things 9:17, 24:12, 63:7, 122:11 think 9:16, 12:5, 13:12, 18:4, 23:13, 23:22, 34:22, 35:2, 41:4, 41:14, 46:21, 48:22, 52:14, 54:10, 54:20, 56:19, 59:8, 59:14, 65:15, 71:12, 75:3, 75:15, 79:18, 81:3, 84:14, 87:13, 87:18, 89:2, 93:3, 96:7, 97:3, 99:22, 100:14, 102:11, 104:16, 105:20,
T			
table 41:18, 42:1, 43:14, 43:18, 69:8, 85:3, 127:17, 128:18 take 35:9, 51:10,			

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

169

106:2, 106:5, 106:16, 108:12, 111:11, 112:2, 116:13, 118:9, 122:12, 123:9, 128:12, 135:16 thinking 109:6 third 52:14 third-party 31:21 thoroughly 122:3 thought 45:3, 59:12, 104:11, 121:15 thoughts 44:12, 50:8, 54:15, 136:16 three 27:19 through 20:8, 21:14, 21:17, 40:8, 45:9, 45:17, 45:22, 46:6, 46:15, 47:10, 48:4, 50:4, 52:2, 52:8, 55:15, 56:2, 57:17, 58:9, 59:3, 59:13, 59:22, 61:12, 63:11, 63:12, 69:8, 69:9, 71:21, 96:8, 100:13, 112:5, 112:14, 117:10, 118:7, 119:8, 121:15, 124:15, 128:1, 132:9, 132:11, 137:9, 137:10, 137:11, 137:13 throughout 61:5 tie 84:10	time 11:3, 11:19, 15:8, 21:15, 23:18, 28:18, 30:3, 31:9, 35:14, 36:16, 43:2, 64:17, 71:8, 72:10, 72:18, 72:21, 74:9, 74:15, 74:19, 75:10, 83:9, 96:21, 104:15, 110:15, 112:21, 121:11, 124:10 times 67:1, 119:16 title 127:19, 128:19 today 6:15, 6:18, 10:14, 12:1, 15:11 today's 4:6, 17:17, 128:13 tool 32:3, 34:12, 34:14, 35:10, 36:5, 109:21, 110:6, 110:8, 110:11, 110:12, 111:3, 111:7, 137:10 tools 31:8, 34:17, 35:5, 46:1, 111:9 top 32:12, 41:18, 42:17, 42:21, 43:1, 51:1, 54:8, 54:19, 55:8, 108:21, 108:22, 121:12, 136:10 topology 88:12, 89:5,	89:21, 89:22, 90:4, 90:7, 90:8, 91:11, 91:13, 92:18, 108:4 total 25:10 totally 53:15 tough 31:15 towards 49:13 trademark 1:1 trajectory 101:14 transcript 4:7, 23:19, 65:21, 124:8 transcription 139:5 trial 1:2, 13:8, 13:9, 38:19, 38:21 trials 121:17 tried 100:19, 123:16 trouble 127:4 true 6:14, 16:13, 21:18, 22:8, 37:9, 42:20, 65:4, 69:12, 82:12, 87:17, 117:21, 118:6, 118:9, 139:4, 140:9 try 9:7, 9:17, 24:9, 27:1, 46:9 trying 9:6, 32:7, 33:10, 37:7, 59:5, 61:7,	66:16, 92:21, 96:15, 98:19, 127:2, 134:9, 136:5 turn 14:11, 18:5, 41:16, 64:2, 67:8, 100:9, 103:9, 106:11, 116:22 twenty-five 129:12 twenty-nine 126:1 two 7:14, 7:15, 8:10, 12:7, 23:17, 24:12, 24:20, 25:15, 25:17, 25:19, 35:11, 45:20, 57:4, 58:6, 59:3, 59:8, 60:17, 61:21, 63:7, 63:10, 63:11, 111:14, 113:18 type 91:13, 110:17 typically 20:2, 33:20, 50:18, 73:17, 73:22, 116:1, 137:19 typo 102:18, 128:14, 129:7 U uh-huh 39:7, 51:4 ultimately 137:12 unclear 76:18 uncross-linked 118:15, 119:21 under 43:14, 74:18,
--	---	--	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

170

76:16, 86:7, 88:4, 111:22, 113:4, 116:7, 117:17, 127:21, 128:4, 136:22 underlying 88:12, 89:6, 89:14, 90:10, 90:12, 90:13, 91:6, 91:11, 91:18, 92:3, 92:13, 93:6, 108:4, 137:13 underneath 116:6 understand 7:22, 8:7, 28:21, 29:9, 29:21, 30:11, 31:3, 37:8, 39:16, 40:10, 41:8, 41:22, 44:2, 59:5, 67:6, 67:14, 68:16, 69:3, 70:21, 75:22, 76:5, 77:8, 78:13, 79:1, 92:6, 92:22, 93:10, 93:13, 93:21, 98:19, 109:18, 115:13 understanding 8:3, 20:19, 28:5, 31:12, 34:8, 34:9, 34:16, 48:8, 48:12, 50:11, 51:5, 52:8, 65:5, 68:20, 70:14, 70:19, 84:10, 93:19, 97:8, 117:18, 130:13 understandings 35:20 understood 57:6, 59:19,	70:6, 71:8, 72:10, 72:21, 73:17, 75:11, 75:15, 78:10, 83:15, 89:18, 106:20, 119:11 undesired 58:21 undeveloped 59:12, 121:14 united 1:1 unknown 33:12 unless 27:2, 39:2 unrelated 38:3 unsure 77:9 unwanted 53:7, 57:2, 98:13, 99:4, 115:18, 116:5, 116:19, 117:20 upcoming 13:8 upper 95:17 use 32:4, 46:1, 50:13, 50:19, 101:22, 105:20, 132:21, 135:7 uses 46:3 using 19:11, 20:19, 21:4, 37:21, 50:16, 51:21, 52:12, 53:17, 77:6, 93:22, 94:4, 97:22, 112:15, 112:18, 114:19, 116:18, 137:16 usually 20:4, 107:3,	137:17 uv 53:17, 54:3, 55:15, 55:20, 56:2, 56:5, 57:16, 58:9, 59:3, 59:22, 61:12, 63:10, 118:6, 119:8, 123:15, 123:19 V vapor 40:7, 45:9, 45:16, 45:21, 46:6, 46:12, 46:15, 47:3, 48:4, 50:3, 63:12, 110:18 vapor-deposition 47:8, 111:1 variances 90:13 variation 90:11 variations 35:8, 58:5, 74:17 various 59:11, 122:17 vary 25:13 vast 78:4 version 135:8, 135:13, 135:17 versus 45:21, 66:19 vertical 90:13 via 40:9, 109:13 viewer 132:13, 132:17 virginia 2:7, 140:3, 141:19	virtually 1:14, 2:2, 140:9, 140:17 vis 21:9, 74:22, 84:21, 87:4, 103:12 W wafers 32:2, 33:18, 33:19, 34:13 wait 38:11, 67:18 waiting 104:10 want 14:11, 27:2, 37:18, 39:15, 60:7, 62:15, 62:18, 67:13, 67:14, 67:19, 68:3, 95:15, 98:11, 107:20, 115:2, 115:16, 120:7, 132:18 wanted 120:17, 133:9, 134:12 wanting 9:12 wash 56:9, 118:19 washed 118:15 washington 3:8 way 9:12, 21:3, 36:7, 36:10, 36:16, 47:19, 59:16, 67:7, 67:16, 104:18, 141:5 ways 55:22, 74:13 we'll 62:16
---	--	--	--

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

171

we're 31:9, 39:16, 46:19, 68:7, 78:7, 81:10, 83:18, 119:19, 119:20 we've 30:19, 32:17, 55:1, 55:2, 63:8, 64:14, 66:17, 82:18, 97:20, 106:16, 108:15, 117:22 weaver 84:19, 84:21, 84:22, 85:5, 85:7, 85:18, 86:1, 86:9, 86:11, 86:15, 87:17, 87:22, 88:11, 88:16, 89:10, 92:2, 92:8, 92:20, 93:9, 107:7, 107:11, 108:3, 131:22, 133:20, 134:5, 134:14 weaver's 86:4, 89:5 wednesday 1:15, 140:18 welcome 62:14, 63:20, 106:9 wellcome 4:9, 66:19 wet 119:15, 119:20 whatever 31:9, 57:10, 57:22, 68:4, 110:12, 112:3, 113:8 whatsoever 121:18 whereas 111:5 whereof 141:8	whether 23:16, 24:19, 47:3, 53:21, 58:15, 65:11, 67:3, 68:13, 68:21, 75:18, 79:22, 80:5, 80:7, 80:12, 80:18, 81:2, 81:15, 82:4, 84:22, 85:19, 85:20, 86:4, 88:22, 99:6, 120:7, 121:20, 133:20 whitehead 1:22, 2:5, 140:2 whole 52:19, 62:13 wikipedia 94:2 withdrew 104:2 without 59:12, 109:14, 121:15 witness 8:16, 17:5, 28:13, 38:6, 38:8, 38:12, 54:12, 62:3, 62:10, 62:13, 62:17, 62:19, 124:11, 133:2, 138:5, 140:5, 140:10, 141:8 wonderful 28:14 word 35:18, 55:10, 57:15, 78:2, 98:18, 100:22, 134:6 words 32:4, 55:16, 112:6 work 13:15, 29:2,	51:13, 122:6, 123:5, 123:8, 123:10, 123:12, 123:16 works 18:13 wouldn't 75:20, 77:15, 77:16, 122:22 write 73:16 writer 31:19, 33:3, 33:8 wrong 47:2, 71:12 Y y-e-s 51:2 yamazaki 80:14, 80:19, 81:3, 108:11, 108:12, 133:20, 134:17, 135:1, 135:2 yeah 7:8, 9:13, 18:13, 23:1, 23:22, 28:11, 33:22, 47:21, 48:6, 58:12, 63:15, 68:4, 71:17, 71:18, 76:20, 85:6, 86:1, 87:13, 93:12, 94:17, 97:15, 102:8, 103:19, 111:11, 111:12, 112:1, 116:16, 126:8, 127:18, 128:14, 132:5 year 16:1 yellow 67:14, 111:15 yourself 33:14, 60:12	Z zhong 3:12, 4:4, 12:18, 13:7, 19:9, 19:13, 20:15, 20:21, 22:13, 22:16, 23:20, 24:6, 25:12, 28:22, 29:13, 30:12, 31:4, 35:3, 38:2, 38:8, 38:15, 38:21, 39:4, 41:2, 55:1, 55:7, 58:11, 59:7, 60:1, 62:1, 62:12, 64:21, 67:22, 75:14, 83:3, 83:14, 93:16, 107:8, 124:11, 124:14, 124:19, 127:6, 127:16, 133:22, 135:5, 138:4 zoom 7:1, 67:11, 107:18 0 01222 1:6, 7:19, 8:1, 8:8, 8:11 01223 7:20 1 28:18, 35:14 10 1:16, 4:20, 140:18 1001 4:16, 16:22, 17:1, 17:7 1005 4:17, 134:16,
---	---	--	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

172

134:18, 134:22, 135:1 1006 4:18, 130:15, 130:17 1008 4:19, 107:10, 107:13, 133:22, 134:2, 134:10, 134:11 1026 4:9, 65:20, 66:3, 120:12 1027 4:11, 124:5, 124:7, 135:7, 135:21, 136:6, 136:20 107 4:19 108 22:20 11 11:13, 36:16 110 22:20 115 85:4, 86:2, 88:1, 88:5, 89:10, 92:8 116 88:1, 88:11, 88:20, 93:4 117 88:1, 108:1 118 131:21, 132:5, 132:8, 132:11 12 127:1 121 93:5, 93:7, 108:3 122 93:5 1222 8:13, 8:22, 126:9	1223 8:22, 126:4, 126:10, 126:18 124 4:4, 4:11, 132:9 125 5:3, 132:11, 133:10 130 4:18 134 4:17 141 1:21 145 116:22, 117:4 149 26:11, 27:15, 64:9, 69:4, 69:8 15 21:2, 21:10, 21:14, 22:6, 22:10, 23:3, 23:7, 23:15, 23:17, 24:4, 24:16, 25:1, 25:5, 126:22 150 70:1, 70:16, 73:14, 73:16, 73:20, 106:12, 106:18 154 39:6, 76:4, 78:22 16 21:10, 22:6, 22:10, 22:18, 22:22, 23:15, 23:17, 24:4, 24:14, 24:16, 25:2, 25:3, 88:18 17 4:16, 21:10, 21:22, 22:1 18 21:10, 21:14	1800 3:14 19 19:19, 21:7, 79:13, 81:5, 81:6, 83:2, 83:13, 94:22, 95:4 191 101:3 1st 1:15, 140:18 2 20 55:2 20001 3:8 2001 4:20, 10:19, 10:20, 11:4, 12:7, 14:19, 26:15, 64:10, 72:8, 72:16, 75:10, 81:12, 135:7 2006 4:11, 4:21, 26:19, 27:5, 27:6, 27:11, 108:14, 118:18, 124:2, 135:5 2018 16:1 202 3:9 2020 16:2 2024 1:6, 12:5 2025 1:15, 141:9 2027 141:12 203 3:17 2046 4:22, 8:15,	8:17, 9:3, 10:2, 12:8, 14:12, 14:13, 14:22, 124:21, 126:12, 127:14, 128:8, 129:6, 129:16, 131:20, 132:16, 135:9 2047 5:3, 125:12, 125:14, 125:18, 125:22, 126:3, 126:10, 126:13, 126:17, 127:7, 127:18, 128:2, 128:9, 128:19, 129:8, 129:17 21 131:9 22 19:19, 21:7, 131:1, 131:8, 131:13 23 19:19 24 71:20, 79:8 25 83:19, 83:20, 86:17, 87:7, 87:12, 129:6, 129:15, 133:7 26 36:16, 96:8 27 4:21, 138:7, 140:18 28 19:15, 28:18, 35:14, 43:3, 51:1, 97:1, 98:9 29 19:15, 96:8, 96:13, 99:14, 102:16, 125:1, 125:9, 125:22, 126:20, 127:7, 127:14, 128:7,
---	--	---	---

Transcript of Kurt Duane Humphrey
Conducted on October 1, 2025

173

129:11, 129:15	41	8	
3	100:6, 100:13	8-inch	
31	46	32:2, 33:18,	
141:12	100:7, 100:10,	33:19, 34:13	
310	100:13, 128:22	80	
3:17	4956	41:16, 42:1,	
32	3:8	135:11	
130:20, 131:5	4th	83	
34	141:9	69:9	
42:8, 42:12,	5	850	
42:16, 43:10,	51	3:7	
43:14, 43:17,	103:7, 103:15,	9	
43:19, 52:4,	104:22	900	
81:22	52	3:15	
36	104:1, 107:18,	90067	
128:22	107:21	3:16	
37	53	97	
128:22	105:21	101:8, 101:12,	
38	54	102:6	
22:1	105:21	9a	
389	55	64:5	
7:16, 12:12,	105:21		
13:1, 13:3,	58		
13:6, 17:17,	1:16, 140:18		
17:22, 18:17,	6		
21:7, 21:9,	6,949,389		
21:15, 21:19,	1:7, 17:11		
22:2, 22:9,	6000		
23:6, 23:9,	3:9		
23:18, 24:2,	601802		
24:8, 24:21,	1:20		
25:5, 70:10,	62		
70:12, 70:19,	72:1		
71:5, 71:7,	65		
72:3, 72:6,	4:9		
72:12, 73:3,	662		
75:1, 76:16,	3:9		
106:22, 111:22,	7		
113:4, 114:6,	7183		
114:8, 114:9	3:17		
4	75		
4	26:11, 26:13,		
43:3, 51:1,	64:3		
138:7, 140:18	77		
40	39:5		
128:22			