

EXHIBIT 1039

URT EX1039
URT Umwelt und Recyclingtechnik v. Duesenfeld
IPR2024-00887

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

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5 URT UMWELT und RECYCLINGTECHNIK GmbH,
6 Petitioner,
7

8 vs.

CASE: IPR2024-00887

9 PATENT: 11,050,097

10 DUESENFELD GmbH,

11 Patent Owner.
12

13 * * *

14 Remote Deposition of VANI DANTAM,
15 a witness herein, called by the petitioner for
16 examination pursuant to the Rules of Civil
17 Procedure, taken before me, Patti Stachler,
18 RMR, CRR, a Notary Public within and for the
19 State of Ohio, at 13114 Avon Cross Way,
20 Fishers, Indiana, on May 2, 2025, at 12:00 p.m.
21

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24 URT EX1039
25 URT Umwelt und Recyclingtechnik v. Duesenfeld
IPR2024-00887

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* * *

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VANI DANTAM

a witness herein, having been first remotely duly sworn as hereinafter certified, was examined and deposed as follows:

EXAMINATION

BY MR. ROBERTS:

Q. Good morning. Could you please state your name for the record?

A. First name Vani, middle name Kumar, last name Dantam; Vani Kumar Dantam.

Q. Thank you, Mr. Dantam. Are you represented by counsel today?

A. Yes, I am.

Q. And have you ever been deposed before?

A. Once before.

Q. What context were you deposed in?

A. It's regarding the matter between Duesenfeld and Ascend Materials.

Q. Was that an IPR proceeding?

A. Yes.

Q. Okay. Just a few ground rules before we get really rolling. You'll probably recognize a lot of this from the prior IPR deposition you were a part of, but I'll ask the

1 questions, you'll answer them unless there's a
2 privilege objection and an instruction not to
3 answer. Is that okay?

4 A. Understood.

5 Q. All right. Number two, can I rely
6 upon you to let me know if a question is
7 unclear or if you're having trouble
8 understanding me?

9 A. I will -- I will mention that,
10 yes.

11 Q. Okay. Great. Okay. And I do beg
12 your indulgence. We're going to get into some
13 German names, and maybe this is also for the
14 transcription. I do beg your pardon on all of
15 that. If there's anything that is unclear as
16 we get into those names, please let me know.

17 A. Understood.

18 Q. And last one, we'll take periodic
19 breaks, but if this goes more than four or five
20 hours, then one or both of us is doing
21 something wrong. I promise that. Sound good?

22 A. Understood.

23 Q. All right. Not my favorite
24 question to start with, but since we're doing
25 this remotely, I have to ask, what do you have

1 in front of you on your desk?

2 A. My computer.

3 Q. Okay. Anything else?

4 A. Water bottles, a couple of pens,
5 my glasses.

6 Q. Okay. Nothing that --

7 A. My phone, which is far away. And
8 my notebook, which is also far away.

9 Q. Okay. And also in the flavor of
10 not my favorite questions, is there any reason
11 why you cannot give accurate and complete
12 information today during this deposition?

13 A. Not that I know of.

14 Q. Okay. Thank you. When were you
15 retained to assist with this IPR?

16 A. Last year, June, July time frame.

17 Q. What did you do to prepare for
18 today's deposition?

19 MR. CARLSON: I'll instruct that you
20 should not divulge the content of any
21 communications with counsel, but generally you can
22 answer.

23 A. I went through my declaration and
24 supporting materials.

25 BY MR. ROBERTS:

1 Q. Did you meet with your counsel?

2 MR. CARLSON: You can answer yes or
3 no.

4 A. Yes.

5 BY MR. ROBERTS:

6 Q. How many times did you meet with
7 your counsel?

8 MR. CARLSON: You can answer with a
9 number.

10 A. I met with him four or five times.

11 BY MR. ROBERTS:

12 Q. And just a rough estimate, how
13 many total hours would you say you worked with
14 your counsel?

15 A. Are you talking about specifically
16 for this preparation or both?

17 Q. Yes, specifically for preparation.

18 A. Maybe four or five hours.

19 Q. Okay. Since you mentioned it, how
20 long did you spend working with counsel on
21 preparing your declaration?

22 A. When the declaration was prepared,
23 prepared twice. Last year, August time frame,
24 and then after the board ruling, we added
25 additional materials. So overall, probably 50,

1 60 hours.

2 Q. Thank you. Let's talk about some
3 exhibits now so we can all know what we're
4 talking about.

5 A. Yeah.

6 Q. If you could flip over to Exhibit
7 Share and look at Exhibit 1001 and let me know
8 when you're there.

9 A. You want me to open 1001?

10 Q. Yes, please.

11 A. I have.

12 Q. Do you know what this document is?

13 A. I presume this is the Hanisch '097
14 patent.

15 Q. If I refer to this document as the
16 '097 patent, will you understand that I'm
17 talking about Exhibit 1001 in this proceeding?

18 A. I do.

19 Q. Okay. Let's go back, and could
20 you please open Exhibit 2025?

21 A. I have opened it.

22 Q. Do you recognize this document?

23 A. Yeah.

24 Q. If I refer to this document as
25 your declaration, will you understand that I'm

1 referring to Exhibit 2025 in this proceeding?

2 A. Yes, I do.

3 Q. Okay. And scrolling down to
4 page 89, can you confirm that that's your
5 signature at the bottom?

6 A. Yes, that is my signature.

7 Q. Okay. You mentioned that you were
8 retained in June or July of last year; is that
9 correct?

10 A. Correct.

11 Q. Prior to being retained to assist
12 with this IPR, had you ever heard of
13 Duesenfeld?

14 A. Never.

15 Q. Prior to being retained in this
16 IPR, had you ever heard of URT?

17 A. No, I never heard of URT either.

18 Q. Prior to being retained in this
19 IPR, had you ever heard of the inventors of the
20 '097 patent?

21 A. Never heard of them either.

22 Q. Prior to being retained in this
23 IPR, had you ever heard of LithoRec?

24 A. No, I never heard of LithoRec.

25 Q. And, sorry, one more. This is a

1 bit reductive. Prior to being retained in this
2 IPR, had you ever heard of the LithoRec
3 Partners?

4 A. I had never heard of LithoRec
5 Partner.

6 Q. Is it safe to say that your
7 opinions of Duesenfeld, URT, the inventors of
8 the '097 patent, and LithoRec, and the LithoRec
9 Partners formed after you were retained in this
10 proceeding?

11 A. Yes, I totally agree with that.

12 Q. Do you have an understanding of
13 the earliest effective priority date of the
14 '097 patent?

15 A. Would you repeat the question
16 again, please?

17 Q. Sure. Do you have an
18 understanding of the earliest effective
19 priority date of the '097 patent?

20 MR. CARLSON: Objection. Calls for
21 legal conclusion.

22 A. What do you mean by earliest
23 effective date?

24 BY MR. ROBERTS:

25 Q. What's your understanding of the

1 time of the invention of the '097 patent?

2 A. I look at when the patent was
3 filed and when the patent was issued.

4 Q. Okay. When was the patent
5 application leading to the '097 patent filed?

6 A. I have to go back and look at it.
7 I don't remember the date off the top of my
8 head.

9 Q. You can refer to Exhibit 1001 if
10 you like.

11 A. Yeah, let me go back. It's
12 April 28, 2016. That's when it was filed,
13 that's what it shows.

14 Q. Okay. For the purposes of this
15 proceeding, I'd like to use the date that's
16 2015 or earlier. Can we do that?

17 A. I don't know if I -- if I'm the
18 right person to say we can do that or not.

19 Q. Okay. If I ask you a question
20 about what someone skilled in the art at the
21 time of the invention would have understood,
22 can we use a date of around April 28, 2015 as
23 the time of the invention?

24 MR. CARLSON: Objection. Calls for
25 legal conclusion.

1 A. Again, I'm looking at the date
2 when it was filed, and I'm presuming, you know,
3 if you apply some reasoning, the invention was
4 made prior to the date being filed, that
5 publication was filed, right? So you might be
6 correct, but, again, I'm -- I'm not the person
7 to say when they mentioned this work was being
8 done.

9 BY MR. ROBERTS:

10 Q. Do you see area 30 on the face of
11 the '097 patent?

12 A. Area 30? What page?

13 Q. The first page, left column, just
14 above the image.

15 A. Just above the image. Yes, I see
16 Foreign Application Priority Date. I see that,
17 yeah.

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

20 A. Foreign Application Priority Date.
21 I do not.

22 Q. I'd like to ask you some questions
23 about your background.

24 A. Yeah.

25 Q. Would you say that most of your

1 expertise is in a particular geographic region?

2 A. No, I would not say that.

3 Q. Would you say that most of your
4 expertise or work is in the US?

5 A. No, I do not say that either.

6 Q. Where would you say that most of
7 your work has been, thinking back over the
8 course of your career?

9 A. Global.

10 Q. Did you focus on any particular
11 areas geographically speaking?

12 A. I have focused on all the
13 geographic areas other than Africa.

14 Q. Are you familiar with commercial
15 installations that include industrial dryers
16 globally?

17 A. I would say yes.

18 Q. What companies' dryer equipment
19 are you most familiar with?

20 A. Quite a few of the dryers. We
21 built them ourselves, designed and built them
22 ourselves because they were such massive
23 capacity.

24 Q. And when you say we, who are you
25 referring to?

1 A. The company I worked for and
2 the company for whom I was managing the
3 construction of large factories.

4 Q. Could you please mention their
5 specific names for the record?

6 A. Delco-Remy, which used to be a
7 division of General Motors.

8 MR. CARLSON: Let's designate the
9 transcript confidential along with the protective
10 order.

11 THE WITNESS: Yeah.

12 A. I managed construction of large
13 factories for this company worldwide. Be
14 precise, I managed construction of ten large
15 factories for them. I also managed design of
16 eleventh factory that I did not have a chance
17 to build.

18 BY MR. ROBERTS:

19 Q. What were your specific duties in
20 managing the construction of these factories?

21 A. I was the director of
22 international operations.

23 Q. Were you selecting which dryers to
24 use in these facilities?

25 A. No, because the dryers we used

1 were very, very large. We had them designed by
2 consulting companies, and we built them
3 ourselves.

4 Q. Who specified the operating
5 conditions of the dryers that were used in
6 these facilities?

7 A. My product engineers.

8 Q. Did you play any role in selecting
9 the operating conditions?

10 A. I made sure they met the
11 specifications because I signed them off.

12 Q. What were some of the
13 specifications in broad strokes that you were
14 making sure these dryers satisfied?

15 A. I won't be specific with regard to
16 the data, but I will give you general
17 description. We had to maintain certain
18 humidity levels and certain temperatures and
19 certain time periods for the tonnage we were
20 trying to dry. And after the time period was
21 finished, we took a sample out, analyzed it,
22 made sure it was approaching what we needed,
23 and then we took them out. And after the
24 equipment was debugged and everything. We did
25 not sample every time, we only sample them once

1 every ten, 15 drying intervals, say, yeah.

2 Q. Was the development of these
3 operating conditions a standard part of your
4 product engineers team duties?

5 A. Yes. I did that. I was a product
6 engineer to begin with, so I understood, yes.

7 Q. Would you agree that a standard
8 part of making sure a dryer works is to
9 optimize variables like time, temperature, and
10 pressure?

11 MR. CARLSON: Objection. Vague.

12 A. I mean, you can say that. I mean,
13 there are other variables, too, but yeah.

14 BY MR. ROBERTS:

15 Q. Do you believe the time,
16 temperature, and pressure are the most
17 important variables to optimize in implementing
18 a commercial or industrial dryer system?

19 MR. CARLSON: Objection. Vague.

20 A. Yeah, depends on the context.

21 BY MR. ROBERTS:

22 Q. If you were designing a system to
23 dry shredded battery material, would the most
24 important variables to optimize be pressure,
25 temperature, and time?

1 MR. CARLSON: Objection. Vague.
2 Calls for hypothetical.

3 A. Yeah, it's -- you're not -- you're
4 not being specific again.

5 BY MR. ROBERTS:

6 Q. Thinking about the product
7 engineers who were working for you, would they
8 prior to 2015 ensure that pressure,
9 temperature, and time were optimized to achieve
10 a particular goal?

11 MR. CARLSON: Objection. Vague.
12 Objection. Lack of foundation. Calls for
13 incomplete hypothetical.

14 A. You have to provide more details,
15 Mr. Roberts. Based on the question you're
16 asking me is not specific enough for me to
17 answer.

18 BY MR. ROBERTS:

19 Q. I'd like you to assume for the
20 purpose of this hypothetical that you know what
21 kind of battery is going to be recycled. I'd
22 like you to assume that you know what
23 electrolytes are going to be evaporated. I'd
24 like you to assume that you know what chemical
25 reactions are possible to occur during

1 shredding and evaporation. I'd like you to
2 assume that you know that there are
3 international standards relating to
4 flammability and combustibility.

5 A. I understand.

6 Q. I'd also like you to assume that
7 there's a target size of the output.

8 A. Understand.

9 Q. Would a product engineer prior to
10 2015 be able to optimize time, temperature, and
11 pressure to ensure that outcome?

12 MR. CARLSON: Objection. Same
13 objections. Objection. Lacks foundation.
14 Objection. Incomplete hypothetical. Objection.
15 Vague and ambiguous.

16 A. You're asking me if a product
17 engineer would be able to optimize and
18 establish conditions as they relate to time,
19 temperature, and pressure, right?

20 BY MR. ROBERTS:

21 Q. That's part of what I'm asking.

22 A. That's part of -- that's what
23 you're asking me, knowing all these other
24 conditions you had mentioned?

25 Q. Yes.

1 A. Okay. As an engineer, I will need
2 to know other conditions also within the dryer
3 before I can optimize these -- before I can
4 establish these, period, not optimize.

5 Q. What else would you need to know?

6 A. The atmosphere you have inside the
7 dryer.

8 Q. Is there anything else you need to
9 know?

10 A. And the operating profile of the
11 dryer.

12 Q. Are you saying that you would need
13 to know the operating profile of the dryer in
14 order to select the dryer?

15 A. No. I know what kind of operating
16 profile I would like to have, but you hadn't
17 mentioned that.

18 Q. So you know what kind of operating
19 profile you'd like to have. How is an
20 operating profile different from optimizing or
21 establishing variables that are used in drying
22 the kind of material used in a battery
23 recycling facility?

24 A. Because you have to mention
25 whether you're operating in a batch process or

1 you're operating as a continuous process. You
2 hadn't mentioned that.

3 Q. Were batch dryers known prior to
4 2015?

5 A. Yes.

6 Q. Roughly speaking, how long have
7 batch dryers to be -- known to be used in
8 industrial settings?

9 MR. CARLSON: Objection. Vague and
10 ambiguous.

11 A. Well, to be open and honest with
12 you, I have used batch dryers ever since I have
13 worked as an engineer, which is more than 40
14 years ago.

15 BY MR. ROBERTS:

16 Q. Were continuous dryers known prior
17 to 2015?

18 MR. CARLSON: Objection. Vague and
19 ambiguous.

20 A. I suppose, yes.

21 BY MR. ROBERTS:

22 Q. Roughly speaking, how long have
23 continuous dryers been used in industrial
24 settings?

25 A. I suppose quite a long time, yeah.

1 I mean, I do not precisely know.

2 Q. Would you say they've been known
3 for 40 years?

4 A. Probably. I would say, yeah.

5 Q. When you were designing these
6 systems, did you prefer batch or continuous
7 dryers?

8 MR. CARLSON: Objection. Vague and
9 ambiguous. Incomplete hypothetical.

10 A. It's not preference, Mr. Roberts.
11 It's what the specification calls for. My
12 preferences do not matter.

13 BY MR. ROBERTS:

14 Q. Are there known tradeoffs between
15 batch dryers and continuous dryers?

16 A. I would say so, yes.

17 Q. What are some of those tradeoffs?

18 A. As an engineer, I expect to have a
19 lot better controls with a batch process, and
20 when I'm using a continuous dryer, it's a
21 step that leads to something else, and it's
22 really -- I cannot maintain the consistency
23 with a continuous process.

24 Q. Are there any advantages of using
25 continuous dryers in industrial drying

1 applications?

2 MR. CARLSON: Objection. Vague.
3 Ambiguous. Incomplete hypothetical.

4 A. I suppose. It depends on the
5 context, you know, what you're trying to do.

6 BY MR. ROBERTS:

7 Q. Is it fair to say there are pros
8 and cons of using batch dryers in certain
9 industrial drying applications?

10 MR. CARLSON: Objection. Vague.

11 A. Again, Mr. Roberts, it depends on
12 the context, what you're trying to do.

13 BY MR. ROBERTS:

14 Q. Is that a yes?

15 A. It could be -- like I said --

16 MR. CARLSON: Improper
17 characterization of testimony.

18 A. It is not -- I cannot say yes or
19 no because it depends on the context.

20 BY MR. ROBERTS:

21 Q. Yes or no, depending on the
22 context, are there pros and cons of using batch
23 dryers in certain industrial drying
24 applications?

25 A. Yeah, there are pros and cons,

1 yeah, for everything. What works in one
2 situation may not work in another situation.

3 Q. Yes or no --

4 A. What works with one product may
5 not work with another product.

6 Q. Thank you. Yes or no, depending
7 on context, are there pros and cons of using
8 continuous dryers in certain drying
9 applications?

10 MR. CARLSON: Same objections.

11 A. Again, my answer will be the same.
12 It depends on the context and the situation and
13 the product you're trying to process.

14 BY MR. ROBERTS:

15 Q. Are you saying that batch dryers
16 would always be better than continuous dryers
17 in any industrial application?

18 MR. CARLSON: Objection.
19 Mischaracterizes testimony.

20 A. Yeah, again, Mr. Roberts, I cannot
21 say that. It's not a yes-or-no question for
22 me.

23 BY MR. ROBERTS:

24 Q. Would the tradeoffs between batch
25 dryers and continuous dryers be understood by

1 someone trying to design a facility for
2 processing batteries prior to 2015?

3 MR. CARLSON: Objection. Lacks
4 foundation. Incomplete hypothetical.

5 A. Depends on -- even though you may
6 be using a dryer, either batch or continuous,
7 in the battery processing steps, it depends on,
8 again, what specifically you're trying to do.
9 There are multiple places where you can use
10 dryers, and some places continuous might be
11 better, some places batch might be better.
12 Again, it depends on where you're trying to
13 install it.

14 BY MR. ROBERTS:

15 Q. I'll ask the question again.

16 A. Yeah.

17 Q. Would the tradeoffs between batch
18 dryers and continuous dryers be understood by
19 someone trying to design a facility for
20 processing batteries prior to 2015?

21 MR. CARLSON: Objection. Asked and
22 answered. Same objections.

23 A. If you are trying to develop
24 manufacturing methodologies prior to 2015
25 specific to batch and continuous drying

1 processes as part of your battery production
2 technology, you have to understand what each
3 continuous, each batch dryer, what the
4 limitations are, what the advantages are. So
5 you -- as an engineer, I have to choose the
6 right way of drying to get the best results,
7 obviously, yes.

8 BY MR. ROBERTS:

9 Q. Is the answer to the question,
10 would the tradeoffs between batch dryers and
11 continuous dryers be understood by someone
12 trying to design a facility for processing
13 batteries prior to 2015, obviously yes?

14 MR. CARLSON: Mischaracterization of
15 the testimony.

16 MR. ROBERTS: It's a question about
17 the answer. I'm trying to not mischaracterize the
18 testimony. I'm trying to figure out what the
19 answer is.

20 MR. CARLSON: Please don't
21 mischaracterize the testimony.

22 You may answer.

23 A. Okay. The engineer has to -- the
24 engineer has to understand the differences,
25 Mr. Roberts, between batch and continuous

1 drying processes. I don't think you can put a
2 year, you know, before this or after this. If
3 I am the manufacturing engineer, engineering
4 manager, and I am trying to design the
5 processes to build a factory, I have to
6 understand the differences.

7 I don't know if you can say before
8 2015 or after 2015. That's one of the
9 responsibilities of -- it's like asking, oh,
10 does a physician have to understand the
11 difference between this body part and right
12 hand and left hand before 2015? It doesn't
13 make any sense to me.

14 BY MR. ROBERTS:

15 Q. One skilled in the art --

16 MR. CARLSON: Let him finish.

17 THE WITNESS: I couldn't hear what
18 he said.

19 A. Would you repeat that, please?

20 BY MR. ROBERTS:

21 Q. Yes. Would one skilled in the art
22 at the time of the invention know about
23 tradeoffs between batch and continuous drying
24 processes in the specific context of designing
25 a facility for processing batteries?

1 A. Would one skilled in the art --

2 Q. At the time of the invention --

3 A. -- at the time of the invention.

4 Q. -- know about the tradeoffs

5 between batch and continuous drying processes
6 in the specific context of designing a facility
7 for processing batteries?

8 A. I would say so, yeah.

9 Q. Okay. I'd like to ask you about
10 your familiarity with some specific industrial
11 dryer equipment. I'm going to give you some
12 product names, and this is the part where I'm
13 really going to do a bad job with
14 pronunciation. So please --

15 A. No worries.

16 Q. -- if I'm not making any sense or
17 if you can't understand me, let me know.

18 A. May I ask you to put it in the
19 chat so I can read it?

20 Q. I'm okay with putting it in the
21 chat.

22 MR. ROBERTS: Steve, are you okay
23 with that?

24 MR. CARLSON: Let's take it
25 case-by-case, but I don't think it will be a

1 problem.

2 BY MR. ROBERTS:

3 Q. Okay. Off we go. Are you
4 familiar with the industrial dryer commercially
5 available from Gebrüder Lödige GmbH prior to
6 the invention of the '097 patent?

7 A. I have heard the name Gebrüder,
8 but I did not hear the second name, but
9 Gebrüder, I have heard of it.

10 Q. Are you familiar with industrial
11 dryer equipment commercially available from
12 Draiswerke GmbH prior to the invention of the
13 '097 patent?

14 A. Draiswerke, no, I have not.

15 Q. Put these in the chat.

16 A. Yeah, Draiswerke.

17 Q. Are you familiar with the
18 industrial dryer equipment commercially
19 available from AVA GmbH & Co.?

20 A. No, I am not.

21 Q. Okay. Are you familiar with the
22 industrial dryer equipment commercially
23 available from BHS-Sonthofen GmbH?

24 A. No, I am not.

25 Q. Are you familiar with the

1 industrial dryer equipment commercially
2 available from Bachiller prior to the invention
3 of the '097 patent?

4 A. No, I have not heard it.

5 Q. Are you familiar with the
6 industrial dryer equipment commercially
7 available from B&P Littleford prior to the
8 invention of the '097 patent?

9 A. B&P Littleford, no, I am not,
10 Mr. Roberts.

11 Q. And we're almost at the end, I
12 promise.

13 A. No worries.

14 Q. Are you familiar with the
15 industrial dryer equipment commercially
16 available from 3V Tech prior to the invention
17 of the '097 patent?

18 A. 3V Tech, no, I am not.

19 Q. And are you familiar with the
20 industrial dryer equipment commercially
21 available from Andritz prior to the invention
22 of the '097 patent?

23 A. No, I am not.

24 Q. I believe you mentioned you were
25 familiar with one company's dryer products?

1 A. Yeah, Gebrüder. I have heard of
2 them, yes.

3 Q. I'm so sorry. Just to clarify,
4 you've heard of Gebrüder, or you're familiar
5 with their products?

6 A. I'm not familiar with them
7 intimately, but I have heard the equipment,
8 yes.

9 Q. Are you aware of any of these
10 companies manufacturing continuous dryers that
11 operate at vacuum?

12 MR. CARLSON: Objection. Lacks
13 foundation.

14 A. I have not heard of these
15 companies, so I couldn't tell you, yeah.

16 BY MR. ROBERTS:

17 Q. And I know what the answer's going
18 to be, but I've got to ask it anyway. I also
19 know what the objection's going to be. Are you
20 aware of any of these companies manufacturing
21 batch dryers that operate at vacuum?

22 MR. CARLSON: Objection. Lacks
23 foundation.

24 A. Again, I have not heard of the
25 companies' names, so I couldn't tell you

1 whether they made batch dryers that operate in
2 vacuum.

3 BY MR. ROBERTS:

4 Q. Would a person of skill in the art
5 at the time of the invention have been familiar
6 with these companies?

7 MR. CARLSON: Objection. Lacks
8 foundation. Speculation.

9 A. I don't think I can answer that
10 question, Mr. Roberts.

11 BY MR. ROBERTS:

12 Q. Would a person of skill in the art
13 at the time of the invention be familiar with
14 commercially available industrial dryers?

15 A. A person may, may not.

16 Q. Would a person of skill in the art
17 at the time of the invention be familiar with
18 commercially available products from the
19 companies that we discussed a few memos ago?

20 A. Again, may, may not, Mr. Roberts,
21 because just like asking just because I know
22 how to paint, am I familiar with the paintings
23 produced by different painters.

24 Q. Could you please turn to
25 paragraph 29 of your declaration? Let me know

1 when you get there.

2 A. I'm looking at it.

3 Q. You're there?

4 A. Yeah.

5 Q. Could you please read the first
6 sentence of that paragraph?

7 A. I am informed that a POSITA is a
8 hypothetical person who is presumed to be aware
9 of all the pertinent prior art.

10 Q. What does that statement mean?

11 A. It means that a hypothetical
12 person would understand the ways and means.

13 Q. What do you mean ways and means?

14 A. How to do certain things.

15 Q. In the context of the '097 patent,
16 what certain things are you referring to?

17 A. Like threading the batteries --

18 MR. CARLSON: I'm going to object.
19 Is the question about the '097 patent or prior
20 art?

21 BY MR. ROBERTS:

22 Q. The question is, in the context of
23 the '097 patent, what certain things are you
24 referring to?

25 MR. CARLSON: Objection. Vague.

1 Calls for legal conclusion. Misstates the
2 premise.

3 A. It's the -- it's the way you are
4 processing the batteries. It's the -- that's
5 what the prior art to me means. Prior art to
6 me doesn't mean that you are intimately aware
7 of all the applicable details of all equipment.

8 BY MR. ROBERTS:

9 Q. Is machinery that's available
10 commercially prior to 2015 in the prior art
11 relative to the '097 patent?

12 MR. CARLSON: Objection. Calls for a
13 legal conclusion. Objection. Vague and
14 ambiguous. Incomplete hypothetical.

15 A. Would you repeat the question
16 again, please, Mr. Roberts?

17 BY MR. ROBERTS:

18 Q. Is machinery that's available
19 commercially prior to 2015 in the prior art
20 relative to the '097 patent?

21 MR. CARLSON: Same objection.

22 A. It depends on the context.

23 BY MR. ROBERTS:

24 Q. Do you have an understanding what
25 prior art is?

1 A. Yeah, I do. Yeah.

2 Q. What is prior art?

3 A. Again, it's the ways and means of
4 doing things that a normal person before this
5 referred invention that you're talking about.

6 Q. Was shredding batteries in prior
7 art?

8 MR. CARLSON: Objection. Calls for
9 legal conclusion. Vague.

10 MR. ROBERTS: The scope and
11 content of the prior art is a factual question.

12 MR. CARLSON: Well --

13 MR. ROBERTS: Well, no. The scope
14 and content of the prior art is a factual
15 question.

16 MR. CARLSON: Well, there's -- I
17 object to the characterization, but you may answer
18 if you can. Is there a question pending?

19 A. So what you are asking me,
20 Mr. Roberts, is, is shredding the batteries a
21 prior art? Is that the question?

22 BY MR. ROBERTS:

23 Q. Was shredding batteries in the
24 prior art?

25 A. Again, that's a very general way

1 of putting shredding the batteries. So you may
2 call it a prior art, but people may do it
3 differently, people may do it better. So
4 you're generalizing it.

5 Q. Did you say earlier that the prior
6 art is the ways and means of doing things?

7 A. That's -- yeah, it's a -- it's
8 ways and means, correct. Not specifics on the
9 equipment that you were asking me about.

10 Q. Were the ways and means of
11 shredding batteries known prior to 2015?

12 MR. CARLSON: Objection. Vague.

13 A. Shredding batteries was known, I
14 am sure, before 2015, different batteries, but
15 ways and means might have evolved, changed,
16 depending on how the battery technologies
17 developed.

18 BY MR. ROBERTS:

19 Q. And were the ways and means of
20 comminuting batteries known prior to 2015?

21 MR. CARLSON: Objection. Vague.

22 A. Again, it depends on the context.
23 What was done before 2015 might have evolved
24 into something different after 2015. But, you
25 know, it's way all things develop. I mean, you

1 look at all cell phones, how they have changed,
2 shapes and sizes how they have changed. We
3 have very small batteries, we have very large
4 batteries. So we -- do we shred them
5 differently? Do we comminute them differently?
6 So shredding and comminuting, two verbs of, you
7 know, describing the process. But have they
8 evolved, have they changed, have they morphed?
9 So it depends on what battery -- there are a
10 lot of other things to look at.

11 BY MR. ROBERTS:

12 Q. Were the ways and means of drying
13 comminuted battery material known prior to
14 2015?

15 MR. CARLSON: Objection. Vague.

16 A. Again, that is a very general
17 question, Mr. Roberts. You know, in a very
18 generalized way, yes, but, again, they have
19 evolved as the battery technologies have
20 changed and they have produced different
21 chemistries, different sizes, different
22 performances, yeah.

23 BY MR. ROBERTS:

24 Q. What do you consider comminuting
25 batteries to mean?

1 A. You are breaking the batteries
2 into, you know, whatever size you want the
3 chunks or the pieces to become. The
4 physical --

5 Q. Apologies.

6 A. Yeah, you're physically breaking
7 the batteries down, applying force.

8 Q. Were the ways and means of
9 evaporating electrolytes from comminuted
10 battery material known prior to 2015?

11 MR. CARLSON: Objection. Vague.

12 A. Again, that is a very general
13 question, Mr. Roberts. It depends on the
14 context. It depends on what kind of
15 electrolyte I have, what kind of battery I
16 have -- and what kind of batteries I have, so
17 you know, I not have to worry about. Sometimes
18 I may have to worry. So, again, it depends on
19 the situation.

20 BY MR. ROBERTS:

21 Q. Do you have a sense of the
22 electrolyte materials that were of concern
23 around 2015?

24 MR. CARLSON: Objection. Lacks
25 foundation. Objection. Vague and ambiguous and

1 incomplete hypothetical.

2 A. If I may, Mr. Roberts, materials
3 prior to 2015, what specific batteries are you
4 referring to?

5 BY MR. ROBERTS:

6 Q. Let's start with lithium-ion-based
7 batteries.

8 A. Okay. Based. So you're asking me
9 if the electrolytes were known right before
10 2015 -- the issues with electrolytes were known
11 with regard to lithium-ion batteries when
12 you're breaking them before 2015? Am I --

13 Q. Yes. Were those issues known?

14 A. Before 2015, the lithium-ion
15 battery industry was very nascent, it was just
16 being commercialized, so the recycling
17 technology basically did not exist. People
18 were surmising things. People were working on
19 it. They had to conduct experiments. We have
20 known the electrolytes that are being used.
21 There are about half a dozen electrolytes, and
22 all of them are combustible, highly
23 combustible. And so if you ask me if people
24 who have worked with the batteries prior to
25 2015, they understood the risks that these

1 electrolytes presented.

2 Q. Would people who worked with
3 recycling batteries prior to 2015 understood
4 the risk that ethyl methyl carbonate presented?

5 MR. CARLSON: Objection. Vague.
6 Incomplete hypothetical.

7 A. Risks in terms of -- can you be
8 specific to what risks you're talking about?

9 BY MR. ROBERTS:

10 Q. Well, let's start with
11 combustibility.

12 A. Yeah. Understood. Number one,
13 before 2015, not a lot of people were doing any
14 work on recycling. And people who did work,
15 they understood, because the lithium-ion
16 batteries, the volumes just started going up,
17 and we all knew, who had worked with
18 lithium-ion batteries, that these electrolytes,
19 ethyl methyl carbonate, lithium carbonate --
20 there are other electrolytes, ethylene
21 carbonate, diethyl carbonate, dimethyl
22 carbonate, propylene carbonate. All of these
23 are flammable. And every manufacturer used
24 different mix of these electrolytes.

25 And so because we knew these are

1 all flammable, if anybody who was involved in
2 recycling, obviously knew, you know, they have
3 to be careful because they catch fire.

4 Q. Were there international standards
5 regarding safety of processing electrolytes in
6 dryers prior to 2015?

7 A. Prior to 2015, were there
8 international standards in processing these
9 electrolytes in dryers? Are you specifically
10 referring to -- the question is misleading to
11 me, Mr. Roberts, because I'm not processing the
12 electrolytes in the dryers.

13 Q. Apologize. Were there
14 international standards regarding
15 combustibility of dryers or associated with
16 dryers drying material involving electrolytes?

17 MR. CARLSON: Objection. Vague.

18 A. I have come across international
19 standards of organic combustible materials in
20 dryers at different temperatures, and
21 personally I have not seen them before 2015
22 specific to electrolytes.

23 BY MR. ROBERTS:

24 Q. Is it safe to say, then, that you
25 have come across international standards of

1 organic combustible materials in dryers at
2 different temperatures for other purposes?

3 A. Correct, that's what I'm saying.

4 Q. Was the risk of combustion during
5 drying comminuted battery material known prior
6 to 2015?

7 MR. CARLSON: Objection. Vague.

8 A. Based on the material that was
9 shared with me with regards to the work I have
10 done, the material available before 2015 seems
11 to be very limited, Mr. Roberts. Because the
12 recycling technology was very nascent. So it
13 was not generally known to people as it is
14 today what the risks were involved before 2015.

15 Because I'm looking at -- you
16 know, when you look at different patents that
17 came about, the order of things seems to be
18 different. So before 2015, after 2015, I would
19 say things have changed.

20 BY MR. ROBERTS:

21 Q. What are you referring to when you
22 say the material that was shared with me?

23 MR. CARLSON: You should not get into
24 any particular attorney/client communications, but
25 you can testify generally.

1 A. In general, yeah, the material
2 that were shared with me were, you know,
3 different technical articles, patents that I
4 was looking at, and with -- you know, compared
5 that to '097. So yeah.

6 BY MR. ROBERTS:

7 Q. Who shared that material with you?

8 A. Reference materials, let me say.
9 Yeah.

10 Q. Who shared that material with you?

11 A. My attorney.

12 Q. When was that material shared with
13 you?

14 MR. CARLSON: You can give a --

15 A. Over a period of four, five
16 months, since I started working.

17 BY MR. ROBERTS:

18 Q. Had you seen any of the material
19 before it was provided to you by your
20 attorneys?

21 A. No, I never saw that material
22 before it was provided to me.

23 Q. Did you conduct your own search
24 for commercial dryers that were available at or
25 prior to the time of the invention?

1 A. No, Mr. Roberts, I have not.

2 Q. Does your declaration depend
3 solely on the information that was provided to
4 you by counsel?

5 MR. CARLSON: Objection.
6 Mischaracterizes the situation. Vague.
7 Ambiguous.

8 A. Again, it's a general question.
9 If you're asking me specifically with regards
10 to dryers that could be used in, you know,
11 recycling lithium-ion batteries, I mean, not
12 really. But if you're asking me with regards
13 to, you know, what kind of dryers, convection
14 dryers, fluidized bed dryers that are
15 available, yeah, I have looked into those
16 things after I started working on this matter.
17 BY MR. ROBERTS:

18 Q. In the course of your search, did
19 you identify any dryers that operate in a
20 continuous mode under vacuum?

21 A. No, I have not.

22 Q. In the course of your search, did
23 you identify any bed dryers that operate under
24 vacuum?

25 MR. CARLSON: Can you repeat the

1 question? I didn't hear it.

2 BY MR. ROBERTS:

3 Q. In the course of your search, did
4 you identify any bed dryers that operate under
5 vacuum?

6 A. Any bed dryers?

7 Q. Correct.

8 A. What kind of bed are you referring
9 to, Mr. Roberts?

10 Q. If you don't know, that's okay.

11 A. No, no. But there are different
12 beds. That's why I'm asking you.

13 Q. In broadest sense, in the course
14 of your search, did you identify any bed dryers
15 that operate under vacuum?

16 A. That's a very general question.
17 Are you referring to vibratory bed or are you
18 referring to fluidized vibratory bed?

19 Q. Let's start with vibratory bed.

20 MR. CARLSON: What's the question?

21 BY MR. ROBERTS:

22 Q. In the course of your search, did
23 you identify any vibratory bed dryers that
24 operate under vacuum?

25 A. Not intimately, but I might have

1 come across batch process dryers that were
2 vibratory bed. I don't remember the names off
3 the top of my head, but batch process vibratory
4 bed. Yeah. I'm being very specific. Batch
5 process vibratory bed.

6 Q. Just to clarify, in the course of
7 your search, you may have come across batch
8 process dryers that were vibratory bed dryers;
9 is that correct?

10 A. Yeah, that were -- that could
11 be -- that could operate under vacuum.

12 Q. Okay. In the course of your
13 search, did you identify any fluid bed dryers
14 that operate under vacuum?

15 A. No, I have not.

16 Q. Did you conduct a search
17 specifically to locate vacuum dryers that
18 operate in a continuous mode?

19 MR. CARLSON: Vague.

20 A. This was, again, months back. I
21 do remember doing it, but I don't remember
22 coming across any specific ones.

23 BY MR. ROBERTS:

24 Q. Okay. In your declaration, you
25 mention some equipment from a company called

1 Kinergy.

2 A. Correct.

3 Q. How did you find that brochure?

4 A. Internet, Googled.

5 Q. Did you find it, or was it
6 provided to you?

7 A. I -- I came across the bulletin.

8 Q. Are the full results of your
9 search provided in your declaration?

10 A. As far as I know.

11 Q. Okay. Is there anything that you
12 discovered in your search regarding the nature
13 of vacuum dryers that is not provided in your
14 declaration?

15 MR. CARLSON: Objection. Vague.

16 A. I don't think I'm understanding
17 your question, Mr. Roberts.

18 BY MR. ROBERTS:

19 Q. Your declaration mentions some
20 specific dryer, shredder, other products. Did
21 you conduct a search to locate those specific
22 products?

23 A. Yes, I have.

24 Q. Did you in the course of doing
25 that search locate any products that are not

1 mentioned in your declaration?

2 MR. CARLSON: Objection. Vague.

3 A. There were quite a few I came
4 across. I don't remember all of them now
5 because I was looking for something -- some
6 specific ones. So I really couldn't tell you
7 how many things that I have come across. So...

8 BY MR. ROBERTS:

9 Q. Did you keep notes about your
10 search results?

11 A. At the time, but, you know, very
12 cryptic, you know, because I was looking for
13 something very specific.

14 Q. What were you specifically
15 searching for?

16 A. For example, convention dryers and
17 fluidized bed dryers and how they operate and
18 if they're batch or continuous. So...

19 MR. ROBERTS: We've been going for
20 an hour and I'm happy to take a quick break, or
21 if you need lunch, we can take a slightly
22 longer break. How are we all feeling?

23 MR. CARLSON: We already ate lunch.

24 THE WITNESS: Yeah.

25 MR. ROBERTS: 15 minutes, then, is

1 that okay? We'll see you about quarter after,
2 then. Thank you so much.

3 (Recess taken from 12:59 to 1:15.)

4 BY MR. ROBERTS:

5 Q. Thinking about industrial dryer
6 technology generally, is there a known
7 relationship between temperature and pressure?

8 MR. CARLSON: Objection. Vague.

9 A. I don't have to have reference to
10 industrial dryers. There is a known reference
11 between temperature and pressure. That's
12 physics.

13 BY MR. ROBERTS:

14 Q. And what is that reference?

15 A. Boyle's law.

16 Q. And what does Boyle's law state?

17 A. P_1V_1 over T_1 equals P_2V_2 over T_2 .

18 (Off the record.)

19 A. So, Mr. Roberts, question was, is
20 there a relation between pressure and
21 temperature? If you keep the volume constant,
22 yes.

23 BY MR. ROBERTS:

24 Q. If you keep the volume constant
25 and you reduce pressure, what happens,

1 according to Boyle's law?

2 MR. CARLSON: Objection. Vague.
3 Incomplete hypothetical.

4 A. If you keep the volume constant
5 and you are reducing the pressure, the
6 temperature to go down.

7 BY MR. ROBERTS:

8 Q. Do you know approximately when
9 Boyle's law was formalized?

10 A. No, I don't.

11 Q. Was it a hundred years ago, maybe?

12 A. Gosh, I have no idea, Mr. Roberts.
13 I mean, I used it in high school. So...

14 Q. Maybe 90 years ago then?

15 A. That feels like hundred years ago.

16 Q. Let the record reflect nervous
17 laughter.

18 A. I've been working for 45 years,
19 so...

20 Q. Okay. So is it your opinion that
21 Boyle's law applies to industrial dryers?

22 A. It does not, to be honest, as an
23 engineer, because industrial dryer, you have
24 leakage quite a bit, you have ingress, egress.
25 If you are using the batch process, even then

1 you're going to be extracting vapors out, so
2 you're really not following the Boyle's law
3 variable protocols. I hope you understand what
4 I'm saying.

5 Q. Are you saying that within
6 engineering tolerances and real-world fudge
7 factors, Boyle's law generally applies?

8 MR. CARLSON: Objection. Vague.

9 A. You might see the trends,
10 Mr. Roberts. For example, if I may describe,
11 let's say we take a batch process and I am
12 trying to dry some material, so I put the
13 material that needs to be dried into the dryer.
14 The dryer has certain temperature it's set at.
15 As you're drying, the vapors are released,
16 you're maintaining the dryer at certain
17 pressure, temperature. The vapors -- you're
18 going to be exhausting those vapors, otherwise
19 the pressure will build up. And when the
20 pressure builds up, the temperature -- the
21 drying might stop because there is something
22 called vapor pressure that you have to be aware
23 of. So I want to keep my vapor pressure
24 managed in such a way that I increase drying to
25 take place.

1 So you may see the trend that
2 is -- that the pressure is trying to increase,
3 but I'm going to be releasing it. So as the
4 temperature's increasing, pressure will
5 increase if I don't exhaust the vapors. You
6 understand what I'm saying?

7 BY MR. ROBERTS:

8 Q. I think so. Are you saying that,
9 as a general trend, more vacuum means lower
10 temperature with the issue of possibly needing
11 to address vapor pressure buildup?

12 MR. CARLSON: Objection.
13 Mischaracterizes testimony.

14 A. If you have the dryer at a lower
15 pressure and you're trying to dry some material
16 at certain temperature, as the drying takes
17 place, if you don't exhaust the vapors, the
18 pressure will increase, the vacuum levels --
19 it's not going to be as strong a vacuum anymore
20 because now you filled up the space with the
21 vapors of the material you're trying to dry.
22 That's what I'm saying.

23 BY MR. ROBERTS:

24 Q. So are dryers designed to deal
25 with this vapor pressure buildup issue?

1 MR. CARLSON: Objection. Vague.
2 Incomplete hypothetical.

3 A. The dryers are designed depending
4 on what pressure they operate at. They have --
5 as I said earlier, you have an ingress and an
6 egress, and so if you're operating them at a
7 pressure about the normal pressure level, which
8 I have not seen many, you will have a pressure
9 relief valve. So things don't blow up.

10 And especially if you're
11 controlling the atmosphere inside, sometimes
12 you don't want to dry regular air, depending on
13 what you're trying to dry and what temperature
14 because oxygen that is present in the regular
15 normal air may be hazardous to the material
16 you're trying to dry. So you don't want the
17 vapor pressure to build up because you want the
18 exhaust pulling stuff out of it.

19 BY MR. ROBERTS:

20 Q. Is it standard for dryers to have
21 a pressure relief valve?

22 A. No, it is not standard. If you're
23 operating the dryer at higher pressures, then
24 you will have a pressure relief valve.

25 Q. If you design a dryer to dry at a

1 temperature, how would you determine the
2 pressure at which the dryer should operate?

3 MR. CARLSON: Objection. Vague.
4 Incomplete hypothetical.

5 A. It depends on -- it depends on the
6 situation, what material I'm trying to dry,
7 Mr. Roberts.

8 BY MR. ROBERTS:

9 Q. If you were trying to dry
10 comminuted battery material and you wanted to
11 dry at a temperature, how would you determine
12 the pressure at which the dryer should operate?

13 A. Again --

14 MR. CARLSON: Objection. Vague.
15 Incomplete hypothetical.

16 A. Again, you have to give me more
17 details. Are you telling me -- are you asking
18 me to do a batch dryer? Are you trying to --
19 are you asking me for a continuous dryer? Are
20 you asking me to deliver you a product with
21 certain characteristics at the end of the
22 drying? Are you asking me to fix the time?
23 There are lots of other things that you have to
24 tell me.

25 BY MR. ROBERTS:

1 Q. If one skilled in the art prior to
2 2015 were going to use a batch dryer to dry
3 comminuted battery material --

4 A. Yes.

5 Q. -- at a particular temperature
6 within a certain amount of time, how would that
7 person go about determining the pressure for
8 the dryer?

9 MR. CARLSON: Objection. Incomplete
10 hypothetical.

11 A. Okay. Are you going to be drying
12 them under normal air or under inert gas?

13 BY MR. ROBERTS:

14 Q. Would the process be the same or
15 different?

16 A. Different.

17 Q. Okay. Let's start with inert gas.

18 A. Okay. So you're asking me if I
19 would -- what pressure would I be able to
20 determine what is the right pressure? Okay.
21 Inert gas, again, when I'm using a dryer, batch
22 process, as an engineer, my objective is going
23 to be how can I do it most effectively and most
24 economically. The mix involves time, manpower,
25 and other resources such as energy consumed and

1 materials I'm using, like nitrogen.

2 So if I'm using nitrogen, nitrogen
3 is relatively inexpensive, so I would want to
4 use -- I would use atmospheric pressure for
5 slightly, slightly elevated atmospheric
6 pressure, higher pressure, because I am going
7 to be drying shredded battery material that has
8 lot of flammable organic solvents. So I don't
9 want any oxygen coming into contact with the
10 material at elevated temperatures. So to
11 prevent any outside air entering, I will
12 maintain a positive pressure slightly above
13 atmospheric pressure. And it also allows me to
14 exhaust the vapors of the electrolyte more
15 easily. So that's my answer.

16 BY MR. ROBERTS:

17 Q. How would things differ if you
18 used regular air, or normal air, as you called
19 it, as opposed to nitrogen?

20 A. Well, I have to be very careful,
21 normal air, because now normal air has oxygen.
22 So I won't be able to afford to use atmospheric
23 pressure because these electrolytes have
24 different volume points. I don't want them to
25 catch fire when you release the vapors. To

1 reduce the risk of flammability, combustion, I
2 have to reduce the amount of oxygen.

3 So I will prefer if I'm using
4 normal air to do this under vacuum. Then I go
5 to have a vacuum, it also reduces the boiling
6 point of my electrolytes so the electrolyte
7 will evaporate more easily and it will prevent
8 combustion. Again, both of these are batch
9 process.

10 Q. If we were drying comminuted
11 battery material in air in a batch dryer, we
12 would want to lower the pressure to a vacuum in
13 order to lower temperature to reduce the
14 boiling point of the electrolytes to avoid
15 combustion; is that correct?

16 A. That is correct.

17 Q. Is that an application of Boyle's
18 law?

19 A. I mean, the trends, as I said,
20 would support it because when you are lowering
21 the -- your pressure, the temperature required
22 to boil off the electrolyte is dropping and
23 also you're exhausting, right, so it doesn't --
24 you know, again, Boyle's law trends can be
25 observed, if that's the question.

1 Q. Can we say it's Boyle's law in
2 engineering application?

3 MR. CARLSON: Objection. Vague.

4 A. I won't say really solid
5 application, Mr. Roberts, because you're
6 exhausting the electrolyte vapors continuously
7 in order to prevent the pressure building up.
8 So for Boyle's law to happen, you have to keep
9 things fixed.

10 BY MR. ROBERTS:

11 Q. Okay. And would reducing pressure
12 under inert gas also help reduce the likelihood
13 of combustion?

14 MR. CARLSON: Objection.

15 Can you read the question back,
16 please?

17 (The record was read.)

18 A. The question doesn't make sense,
19 Mr. Roberts, because when I'm using inert gas,
20 I'm using inert gas precisely to eliminate the
21 chance of combustion. That's what inert gas
22 does. So I don't want to reduce pressure with
23 inert gas because I have to spend money to
24 reduce pressure.

25 BY MR. ROBERTS:

1 Q. Okay. Let's engage in the same
2 colloquy for continuous dryers. Let's say I
3 want to use a continuous dryer to dry
4 comminuted battery material in air. Could one
5 skilled in the art have done that prior to the
6 invention?

7 MR. CARLSON: Objection. Vague. And
8 incomplete hypothetical.

9 A. Would you mind repeating the
10 question, please, Mr. Roberts?

11 BY MR. ROBERTS:

12 Q. Let's say I want to use a
13 continuous dryer to dry comminuted battery
14 material in air. Could one skilled in the art
15 have done that prior to the invention?

16 MR. CARLSON: Same objections.

17 A. Yeah. If you're using continuous
18 dryer in air, you're creating lot of problems
19 because of air and because the process is
20 continuous. So it would be a very dangerous
21 process because of the chance of combustion.

22 BY MR. ROBERTS:

23 Q. Is that a yes or a no?

24 A. I -- as an engineer, if you tell
25 me that this is a dryer you have to use with

1 air as a continuous process, drying shredded
2 battery material with combustible electrolyte,
3 then my answer would be, as an engineer, no, I
4 wouldn't do that if you're operating under
5 normal pressure because it is a continuous
6 dryer, you will have a lot of difficulty with
7 creating vacuum and maintaining it.

8 Q. Was it known prior to 2015 to
9 operate continuous dryers under vacuum?

10 MR. CARLSON: Objection. Vague.
11 Incomplete hypothetical.

12 A. I have not come across solid
13 evidence that it was known.

14 BY MR. ROBERTS:

15 Q. Okay. Let's take a break from
16 this one and go over to Exhibit 1001, and
17 please let me know when you get there.

18 A. 1001?

19 Q. Yes. The '097 patent.

20 A. Okay. I have it on. It's coming
21 up.

22 Q. Please scroll down to the claims.
23 Are you there?

24 A. Yeah.

25 Q. Do you have an understanding what

1 a patent claim is?

2 A. I believe so.

3 Q. What is your understanding of what
4 a patent claim is?

5 A. The invention states they can do
6 this, this, this, this.

7 Q. Does a patent claim give the
8 patent owner a right to do anything?

9 MR. CARLSON: Objection. Calls for
10 legal conclusion.

11 A. I don't understand the question,
12 Mr. Roberts.

13 BY MR. ROBERTS:

14 Q. In your understanding of what a
15 patent claim is, does a patent claim give a
16 patent owner a right to do anything?

17 MR. CARLSON: Objection. Vague.
18 Calls for legal conclusion.

19 A. To do anything like what?

20 BY MR. ROBERTS:

21 Q. You stated, the invention states
22 that they can do this, this, this, and this.

23 A. Yeah. Like, for example, take
24 Claim 1, invention claim is a method for
25 treatment of used batteries comprising the

1 steps, comminuting the batteries such that the
2 comminuted material is obtained.

3 So they're saying, okay, we're
4 comminuting the batteries, so we're getting
5 com -- that's a claim. Inactivating the
6 comminuted material such that an inactivated
7 comminuted material is obtained wherein the
8 inactivating step is performed during or after
9 the comminuting step.

10 Part (c) of Claim 1, filling a
11 transport container with the inactivated
12 comminuted material wherein the inactivating
13 step is performed by drying the comminuted
14 material and wherein the drying occurs at a
15 maximum pressure of 300 hectopascals.

16 So that's the claim, Claim 1.

17 Q. Do you have an understanding of
18 how claim terms are to be construed for IPR
19 purposes?

20 A. If you're asking me how they can
21 be construed legally, no, Mr. Roberts.

22 Q. Do you have an understanding of
23 what a lexicographic definition is?

24 MR. CARLSON: Objection. Calls for
25 legal conclusion.

1 A. I understand the meaning of
2 lexicographer.

3 BY MR. ROBERTS:

4 Q. Do you have an understanding of
5 what's needed to invoke a lexicographic
6 definition?

7 MR. CARLSON: Objection. Calls for
8 legal conclusion.

9 A. What do you mean working lexico --
10 lexicographer definition is the definition, so
11 I don't understand when you're saying, you
12 know, invoking the definition.

13 BY MR. ROBERTS:

14 Q. Do you have an understanding of
15 the default rule for how claim terms are to be
16 construed in an IPR?

17 A. Default terms?

18 Q. Do you have an understanding of
19 the default rule for how claim terms are to be
20 construed in an IPR?

21 A. Default rule, how the claim terms
22 are construed?

23 MR. CARLSON: Objection. Calls for
24 legal conclusion.

25 A. I -- I'm not -- I'm not

1 understanding you, Mr. Roberts. What's a
2 default rule?

3 BY MR. ROBERTS:

4 Q. In forming your opinions, did you
5 construe any claims?

6 A. I'm not inventor. How can I
7 construe claims?

8 Q. In forming your opinions and
9 specifically in completing your claim chart,
10 did you construe any claim terms?

11 MR. CARLSON: Objection. Would it
12 help to look at the actual declaration, perhaps?

13 A. I don't -- I don't understand.

14 BY MR. ROBERTS:

15 Q. Do you have an understanding of
16 what the term vacuum installation means in the
17 context of the '097 patent claims?

18 A. Do I have an understanding of what
19 the term vacuum installation means with respect
20 to '097 patent, right?

21 Q. Specifically with respect to the
22 patent claims.

23 A. Yes, I do.

24 Q. And what is that understanding?

25 A. You have a vacuum installation

1 that is creating vacuum during the steps of
2 comminution and grinding -- and drying. Excuse
3 me.

4 MR. CARLSON: I'll object for the
5 record. It calls for a legal conclusion.

6 BY MR. ROBERTS:

7 Q. Can you point me to the language
8 in any claim that says comminution has to be
9 performed using a vacuum installation?

10 MR. CARLSON: Objection. Calls for
11 legal conclusion.

12 A. Look at the picture.

13 BY MR. ROBERTS:

14 Q. I'm asking about the claims.

15 A. I may have misspoken, Mr. Roberts.
16 I don't think comminution is taking place under
17 vacuum. Let me see.

18 MR. CARLSON: Is the question about a
19 particular claim, Mr. Roberts?

20 A. In regards to drying, I may have
21 misspoken, Mr. Roberts.

22 BY MR. ROBERTS:

23 Q. Okay. So I'll ask again just so
24 the record is clear. What is your
25 understanding of the meaning of the term vacuum

1 installation as used in the context of the '097
2 patent claims?

3 MR. CARLSON: Objection. Calls for
4 legal conclusion.

5 A. Vacuum installation is used during
6 the drying process.

7 BY MR. ROBERTS:

8 Q. Does the '097 give any examples of
9 what a vacuum installation is or could be?

10 MR. CARLSON: Objection. Calls for
11 legal conclusion.

12 A. It describes how much vacuum you
13 have to maintain, gives you the conditions.

14 BY MR. ROBERTS:

15 Q. Do you agree that the '097 patent
16 does not provide any examples of what a vacuum
17 installation is or could be?

18 MR. CARLSON: Objection. Document
19 speaks for itself.

20 MR. ROBERTS: I'd like the witness to
21 testify as opposed to counsel.

22 BY MR. ROBERTS:

23 Q. The question that's pending is
24 that, do you agree that the '097 patent does
25 not provide any examples of what a vacuum

1 installation is or could be?

2 MR. CARLSON: Objection. Calls for
3 legal conclusion.

4 A. If you're asking me specifics
5 about what type of vacuum installation, how to
6 operate it, you're probably right, Mr. Roberts.
7 So...

8 BY MR. ROBERTS:

9 Q. Sorry. For those who are going to
10 be reading this afterwards, by, you're probably
11 right, Mr. Roberts, do you mean there is
12 nothing in the '097 patent that provides an
13 example of what a vacuum installation is or
14 could be?

15 MR. CARLSON: Objection.
16 Mischaracterizes the testimony.

17 A. What I'm saying is, the patent
18 does not describe what kind of vacuum
19 installation is being used and how to operate
20 it. That's my understanding.

21 BY MR. ROBERTS:

22 Q. Okay. Thank you.

23 Let's look at Claim 12 of the '097
24 patent. Let me know when you're there.

25 A. Yeah, I'm looking at it.

1 Q. Does Claim 12 of the '097 patent
2 require a specific pressure?

3 A. Let me read it.

4 MR. CARLSON: Objection. Calls for
5 legal conclusion.

6 A. Battery processing installation
7 for treatment of used batteries comprising the
8 comminution unit configured to comminute the
9 batteries such that the comminuted material is
10 obtained, an inactivation device comprising the
11 drying device configured to inactivate the
12 comminuted material wherein the inactivation
13 device is configured to perform the
14 inactivating step during or after the
15 comminuting step of the comminution unit, a
16 filling device configured to fill a transport
17 container with the inactivated comminuted
18 material and a vacuum installation connected to
19 the drying device and configured to generate a
20 vacuum in the drying device.

21 So it is saying pretty clearly
22 that you have a vacuum installation connected
23 to the drying device creating vacuum, so the
24 drying takes place under vacuum.

25 BY MR. ROBERTS:

1 Q. In Claim 12, is any specific
2 pressure provided?

3 A. Claim 12 specifically does not
4 suggest or provide any specific pressure.

5 Q. Does Claim 12 of the '097 specify
6 any temperature?

7 A. Claim 12 also does not have any
8 temperature data.

9 Q. Does Claim 1 of the '097 patent
10 require a specific temperature?

11 A. Let me go back and look. Method
12 for the treatment of used batteries comprising
13 the steps, comminuting the batteries such that
14 the comminuted material is obtained.
15 Inactivating the comminuted material such that
16 inactivated comminuted material is obtained
17 wherein the inactivating step is performed
18 during or after the comminuted step, and
19 filling a transport container with the
20 inactivated comminuted material wherein the
21 inactivating step is performed by drying the
22 comminuted material and wherein the drying
23 occurs at a maximum pressure of 300
24 hectopascals.

25 No, Claim 1 does not show any

1 temperature data.

2 Q. Does Claim 1 require particular
3 vacuum pressure?

4 A. It is mentioning the maximum
5 pressure of 300 hectopascals.

6 Q. Does Claim 1 require a low vacuum?

7 MR. CARLSON: Objection. Low --
8 calls for legal conclusion. Vague. Ambiguous.
9 Misstates the document.

10 A. It's -- it's not -- it's -- what
11 you're saying as a -- an engineer, I would
12 answer that low vacuum, Mr. Roberts.

13 BY MR. ROBERTS:

14 Q. What's a low vacuum, according to
15 one skilled in the art?

16 A. I would look at the
17 specifications. There are all scales. I don't
18 remember them off the top of my head, but you
19 have rough vacuum, medium vacuum, low vacuum,
20 ultralow vacuum. So this falls under rough
21 vacuum.

22 Q. Okay. Sorry. I may have
23 misheard. Are you saying that Claim 1 falls
24 under rough vacuum?

25 A. The 300 hectopascals is rough

1 vacuum, yes.

2 Q. Okay. Thank you.

3 Do any of the claims of the '097
4 patent require the shredder to be run under
5 vacuum?

6 MR. CARLSON: Objection. Calls for
7 legal conclusion.

8 A. I have not -- I don't think so, as
9 I look at all the claims, yeah.

10 BY MR. ROBERTS:

11 Q. From an engineering perspective,
12 can a shredder that does not operate under
13 vacuum work together with a dryer that does
14 operate under vacuum?

15 MR. CARLSON: Can I have the question
16 read back, please?

17 (The record was read.)

18 MR. CARLSON: Objection. Calls for
19 speculation. Incomplete hypothetical. Vague and
20 ambiguous.

21 A. Are you referring, Mr. Roberts, to
22 a shredder that is connected to the dryer or
23 that is not connected to the dryer?

24 BY MR. ROBERTS:

25 Q. It's a general question.

1 MR. CARLSON: Same objections.

2 A. It matters to me as an engineer.
3 If my shredder is connected to the dryer, if my
4 dryer is under vacuum, then it will be
5 difficult for me to maintain the vacuum, but if
6 my shredder is not connected to the dryer, then
7 it would be easier for me. So it matters to
8 me, yes.

9 BY MR. ROBERTS:

10 Q. Are you saying that it's a matter
11 of ease as to whether the shredder and the
12 vacuum are connected to one another?

13 MR. CARLSON: Objection. Vague.

14 BY MR. ROBERTS:

15 Q. It's possible in both instances?

16 MR. CARLSON: Incomplete
17 hypothetical.

18 A. Would you repeat the question?
19 Shredder and what are connected?

20 BY MR. ROBERTS:

21 Q. Are you saying it's a matter of
22 ease as to whether the shredder and the vacuum
23 are connected to one another as to whether it's
24 possible?

25 MR. CARLSON: Objection. Incomplete

1 hypothetical. Vague and ambiguous.

2 A. No, no, because, again,
3 shredder -- I don't want to use vacuum, period.
4 Because shredder becomes very hot when you use
5 vacuum. And the hot plates that become hot
6 that are breaking up the batteries, if they get
7 hot, they won't get cool, and then they get
8 soft, they will get annealed.

9 So I don't want my shredder
10 connected to the vacuum, Mr. Roberts. That's
11 why I was being very specific. You don't want
12 them connected. So you have your dryer working
13 under the vacuum to facilitate evaporation of
14 the electrolytes more easily, and so you don't
15 want a continuous process where my dryer is
16 operating in vacuum connected to the shredder.
17 BY MR. ROBERTS:

18 Q. Would one skilled in the art
19 looking at the '097 patent claims understand
20 them to be operating in a noncontinuous
21 process?

22 MR. CARLSON: Objection. Calls for
23 legal conclusion. Vague. Ambiguous. Incomplete
24 hypothetical.

25 A. Would you repeat the question,

1 again, please?

2 BY MR. ROBERTS:

3 Q. Would one skilled in the art
4 looking at the '097 patent claims understand
5 them to be operating in a noncontinuous
6 process?

7 A. When I'm looking at the way the
8 '097 patent is, I would be -- I would be
9 interpreting it as a batch process.

10 Q. Can you point me to language in
11 any '097 patent claim that requires a batch
12 process?

13 A. Looking in Claim 1, comminuting
14 the batteries such that comminuted material is
15 obtained. It's a step. An inactivating step,
16 filling step. That's it.

17 Q. The question is, can you point me
18 to any language in the '097 patent that
19 requires a batch process?

20 MR. CARLSON: Calls for legal
21 conclusion. Asked and answered.

22 A. My answers won't change,
23 Mr. Roberts.

24 BY MR. ROBERTS:

25 Q. Just so we're clear, is your

1 testimony that Claim 1 requires batch drying?

2 MR. CARLSON: Objection. Calls for
3 legal conclusion.

4 A. Yes.

5 BY MR. ROBERTS:

6 Q. Is the word batch present in
7 Claim 1 lexically?

8 A. Specifically.

9 MR. CARLSON: We've been going about
10 an hour. Let's take a break.

11 MR. ROBERTS: We've been going about
12 40 minutes. I'd like to finish my questioning.

13 MR. CARLSON: The witness needs a
14 break.

15 MR. ROBERTS: Is the witness asking
16 for a break, or is counsel asking for a break?

17 THE WITNESS: Let me -- yeah, take a
18 break, Mr. Roberts.

19 MR. ROBERTS: How long would you
20 like?

21 THE WITNESS: Ten minutes.

22 MR. ROBERTS: Okay. See you in ten.
23 (Recess taken from 1:57 to 2:06.)

24 MR. ROBERTS: Back on the record.

25 BY MR. ROBERTS:

1 Q. Mr. Dantam, would one skilled in
2 the art construe any claim in the '097 patent
3 to require batch drying?

4 MR. CARLSON: Objection. Calls for
5 legal conclusion.

6 A. I'm going to answer as an
7 engineer, which is -- and I'm looking at the
8 steps just basically, you know, the way the
9 controls are being maintained, yes.

10 BY MR. ROBERTS:

11 Q. Can you point me to language in
12 any of the claims about maintaining controls?

13 MR. CARLSON: Objection. Calls for
14 legal conclusion.

15 A. I have read the patent,
16 Mr. Roberts, specifically. Again, I'm not
17 interpreting the patent. That's not my job.
18 As an engineer, I'm sharing what -- what I'm
19 looking at when I'm looking at the claims.

20 BY MR. ROBERTS:

21 Q. Are you saying that the claims do
22 not talk about maintaining controls?

23 MR. CARLSON: Objection. Calls for
24 legal conclusion.

25 A. Again, I'm expressing my

1 engineering opinions.

2 BY MR. ROBERTS:

3 Q. In your engineering opinion, do
4 the claims talk about maintaining controls such
5 that they would require batch processing?

6 MR. CARLSON: Same objections.

7 A. As an engineer, I'm saying the
8 claims are the way the claims are drafted,
9 listed; you are different steps.

10 MR. ROBERTS: Move to strike as
11 nonresponsive.

12 BY MR. ROBERTS:

13 Q. Do the claims of the '097 patent,
14 from your engineering perspective, ensure that
15 the material exiting the dryer will be fully
16 dry?

17 MR. CARLSON: Objection. Calls for
18 legal conclusion. Vague and ambiguous.

19 A. You -- again, you're not -- you're
20 not -- you're confusing me, Mr. Roberts. The
21 material exiting the dryer is safe to be
22 transported.

23 BY MR. ROBERTS:

24 Q. What makes it safe for transport?

25 A. There are different metrics that

1 the claim -- the patent talks about and you
2 have meet these, and so it's, you know, we feel
3 the -- it's safe to be transported.

4 Q. What are those different methods
5 the patent talks about?

6 MR. CARLSON: Objection. Vague.
7 Calls for legal conclusion.

8 A. They measure different things,
9 Mr. Roberts. But, again, they have record,
10 they have been shipping the material for three
11 years, four years, and they have never had an
12 accident like, you know, the Covington plant
13 had accidents. So the ultimate measure is, is
14 the material safe to be transported.

15 BY MR. ROBERTS:

16 Q. Are you saying that the '097
17 patent specification teaches that a material is
18 safe to be transported if it's safe for
19 transport?

20 A. What?

21 MR. CARLSON: Mischaracterizes
22 testimony. Vague. Ambiguous.

23 A. I don't understand your question,
24 Mr. Roberts.

25 BY MR. ROBERTS:

1 Q. I don't understand your answer. I
2 think that's maybe where we're missing each
3 other.

4 What makes something safe for
5 transport according to the '097 patent?

6 MR. CARLSON: Objection. Calls for a
7 legal conclusion.

8 A. As an engineer, I'm filling the
9 material up in a barrel or a bag and sealing it
10 and shipping it out where I want to without an
11 incident, and that -- if I have record of that
12 historical record, I have good bit experience,
13 and, of course, I know how to do -- how to
14 prepare the material so it is safe to be
15 transported.

16 BY MR. ROBERTS:

17 Q. Are you saying that a material is
18 safe for transport if you have a record of no
19 incidents during transportation?

20 MR. CARLSON: Objection. Vague.
21 Mischaracterizes testimony.

22 A. I feel like you're leading me on
23 to saying something.

24 BY MR. ROBERTS:

25 Q. That's my job.

1 A. I'm sensing that, Mr. Roberts. My
2 apologies. It's a result of preparation and
3 having safe practices and having, you know --
4 how do I say -- the right resources, so
5 following the specifications. So -- and the
6 Wendeberg plant of Duesenfeld, they have been
7 doing this for a few years, so they're able
8 to -- they're able to prepare the material and
9 ship it out.

10 Q. Is a material that's fully dry
11 when it exits a dryer inactivated?

12 MR. CARLSON: Calls for a legal
13 conclusion. Incomplete hypothetical.

14 A. Would you say that again, please?
15 BY MR. ROBERTS:

16 Q. Is a material that's fully dry
17 when it exits a dryer inactivated?

18 A. Material is inactivated if it is
19 safe to be transported. Inactivation is the
20 result.

21 Q. Are the claims of the '097 patent
22 limited to inactivating shredded EV batteries?

23 MR. CARLSON: Objection. Calls for a
24 legal conclusion.

25 A. I'm not a legal interpreter,

1 Mr. Roberts. As an engineer, the patent
2 overall tells you how to prepare the material
3 and dry it and get it ready for shipment,
4 transportation, and the drying is the process
5 and inactivation is the end result.

6 BY MR. ROBERTS:

7 Q. Is there any language in the '097
8 patent claims that discusses shredding EV
9 batteries?

10 MR. CARLSON: Objection. Document
11 speaks for itself.

12 A. You have to -- if you want me to
13 read the patent over again and look for it, I
14 can.

15 BY MR. ROBERTS:

16 Q. Did you speak to your counsel
17 during the last ten-minute break?

18 A. Yes, I have.

19 Q. What did you talk about?

20 A. I want to be technically correct.

21 Q. Did counsel tell you that it's not
22 your job to interpret the claims?

23 A. I'm not -- I can't -- I can't be a
24 legal -- I can't express my legal opinion. I'm
25 not an attorney.

1 Q. Did counsel tell you during the
2 last break that it's not your job to interpret
3 the claims?

4 A. The counsel told me to be --
5 answer the questions as an engineer.

6 Q. Did counsel tell you during the
7 last break to avoid making legal assertions?

8 A. The counsel specifically advised
9 me to answer my questions as an engineer
10 because I'm not an attorney.

11 Q. Did counsel during the last break
12 coach you on how to give specific answers?

13 A. No.

14 Q. Did counsel during the last break
15 coach you on how to answer different classes of
16 questions?

17 A. No.

18 Q. You just said that counsel
19 specifically advised you to answer questions as
20 an engineer because you're not an attorney.

21 A. But you said different classes. I
22 don't -- he didn't mention anything about
23 classes of questions. I'm an engineer.

24 Q. We'll leave it there.

25 A. Yeah.

1 Q. We'll leave it there.

2 We're getting to the end here. Not
3 too much further to go.

4 Earlier today you mentioned
5 Ascend. Do you remember that? Are you
6 familiar with the Ascend IPR?

7 A. In parts --

8 Q. Yes.

9 A. Yes.

10 Q. Are your opinions in this
11 proceeding based on anything from the Ascend
12 IPR?

13 A. Oh, boy. That's a -- are you
14 referring to something specific? Because I
15 can't remember off the top of my head.

16 Q. I'm just asking a yes or no. Are
17 your opinions in this proceeding based on
18 anything from the Ascend IPR?

19 A. I don't believe so because I
20 worked on these things individually. So I
21 can't say that I connected both of them in any
22 way. So...

23 Q. Are you familiar with a project
24 called LithoRec 2?

25 A. I worked on LithoRec -- I don't

1 know if it's 1 or 2, but there's one LithoRec
2 that I worked on that talks about comminution
3 of, you know, batteries, et cetera.

4 Q. Are you aware of follow-on
5 research that occurred after the LithoRec
6 document that's cited in this proceeding?

7 A. By who?

8 Q. By the LithoRec Partners. Sorry.
9 That would probably have been helpful.

10 A. No.

11 Q. Okay. You're not aware of that
12 work?

13 A. No.

14 Q. Okay. Are you aware of any
15 advancements that were made by the LithoRec
16 team after the initial LithoRec paper cited in
17 this proceeding and prior to the 2015 time of
18 the invention?

19 A. No, I'm not.

20 Q. Who is Mr. Til Bussmann?

21 A. He's one of the people I spoke
22 with briefly from Duesenfeld.

23 Q. What's his role at Duesenfeld?

24 A. Oh, this is such a long time ago.
25 I'm not actually aware. I just spoke with him

1 on one of the calls, that's all, just once.

2 Q. What did you talk about?

3 A. Had to go back and look at my
4 declaration. I mention him -- I remember
5 mentioning him once specifically.

6 Q. Let's pull that up.

7 A. Yeah.

8 Q. Paragraph 109, please.

9 A. Yeah, I'm going to that right now.
10 I'm looking at 109. Would you like for me to
11 read it?

12 Q. No. I'm just wondering if that
13 helps refresh your recollection as to --

14 A. Yeah.

15 Q. -- who Mr. Bussmann is and what he
16 did with regard to the preparation of your
17 declaration.

18 A. Yeah, he confirmed the
19 understanding of ventilator.

20 Q. Did he provide translational
21 services?

22 A. Yeah, because we have the flow
23 diagram and the original lithograph was in
24 German, right?

25 Q. Did he provide any technical input

1 apart from translational services?

2 A. Not really. We just made sure our
3 understanding was correct.

4 Q. And, sorry, just to be clear, your
5 understanding of the translation?

6 A. Yeah. Ventilator and fan are
7 same.

8 Q. Correct. Okay. Did Lydia Grote
9 play a role in the creation of your
10 declaration?

11 MR. CARLSON: Objection. Vague.

12 A. I don't believe so, Mr. Roberts.

13 BY MR. ROBERTS:

14 Q. Did you talk to her at all in
15 preparing your declaration?

16 A. No, I had not.

17 Q. Are you relying on her declaration
18 in forming your opinions?

19 A. No, I'm not.

20 Q. Okay. Have you ever toured the
21 Wendeberg plant?

22 A. No, I have not.

23 Q. Is your knowledge of the Wendeberg
24 plant derived from YouTube videos and product
25 brochures?

1 A. That is correct basically, yes.

2 MR. ROBERTS: Okay. I think that's
3 it, but if we could take a 15-minute break so I
4 can check my outline, confer with counsel, we may
5 be very close to the end.

6 MR. CARLSON: Okay.

7 (Recess taken from 2:22 to 2:29.)

8 MR. ROBERTS: No more questions on
9 cross, and I'm ready to pass the witness. Thank
10 you.

11 EXAMINATION

12 BY MR. CARLSON:

13 Q. Mr. Dantam, thank you for your
14 time today. I want to ask a very brief
15 question. You were asked about if you had any
16 communication at all with Ms. Grote in
17 preparing your declaration. Do you recall that
18 question?

19 A. Correct.

20 Q. I'd like to refer to paragraph 176
21 of your declaration. It's Exhibit 2025.

22 A. 176 language. Yes.

23 Q. Why don't you take a look at that,
24 please?

25 A. Yes, I have reviewed materials

1 regarding the Wendeberg plant, and I have
2 reviewed practices as to '097 claimed
3 invention.

4 Q. So was your understanding about
5 the Wendeberg plant based on materials from
6 Ms. Grote?

7 A. That is correct. Her
8 communications, yes.

9 MR. CARLSON: I have no further
10 questions.

11 MR. ROBERTS: No recross.
12 (Off the record.)

13 MR. ROBERTS: Okay. We'll just say,
14 having reviewed it, we don't need to designate the
15 transcript confidential.

16 MR. CARLSON: No objection.

17 (Deposition concluded at 2:33 p.m.)

18 * * *

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1 STATE OF OHIO)

2 COUNTY OF HAMILTON) SS: CERTIFICATE

3

4 I, Patti Stachler, RMR, CRR, a
5 Notary Public within and for the State of Ohio,
6 duly commissioned and qualified,

7 DO HEREBY CERTIFY that the
8 above-named VANI DANTAM was by me first
9 remotely duly sworn to testify the truth, the
10 whole truth, and nothing but the truth.

11 Said testimony was reduced to
12 writing by me stenographically in the presence
13 of the witness and thereafter reduced to
14 typewriting.

15 I FURTHER CERTIFY that I am not a
16 relative or attorney of either party, in any
17 manner interested in the event of this action,
18 nor am I, or the court reporting firm with
19 which I am affiliated, under a contract as
20 defined in Civil Rule 28(D).

21

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25

1 IN WITNESS WHEREOF, I have
2 hereunto set my hand and seal of office at
3 Cincinnati, Ohio, on this 5th day of May 2025.

4
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7

8 PATTI STACHLER, RMR, CRR
9 NOTARY PUBLIC, STATE OF OHIO
10 My commission expires 10/5/2028
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[& - air]

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[using - yeah]

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

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