

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

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

|                    |   |                        |
|--------------------|---|------------------------|
| TESLA, INC.,       | ) |                        |
| Petitioner         | ) |                        |
|                    | ) | CASE IPR 2025-00032    |
| VS.                | ) | U.S. PATENT 11,563,338 |
|                    | ) |                        |
| CHARGE FUSION      | ) |                        |
| TECHNOLOGIES, LLC, | ) |                        |
| Respondent         | ) |                        |

ORAL DEPOSITION OF SCOTT ANDREWS  
AUGUST 21, 2025

ORAL DEPOSITION OF SCOTT ANDREWS, produced as a witness at the instance of the Respondent and duly sworn, was taken in the above styled and numbered cause on Thursday, August 21, 2025, from 11:00 a.m. to p.m., before Janalyn Elkins, CSR, in and for the State of Texas, reported by computerized stenotype machine, via Zoom, pursuant to the Federal Rules of Civil Procedure and any provisions stated on the record herein.

A P P E A R A N C E S

FOR THE PETITIONER:

LYDIA RAW  
ERISE, IP  
7015 College Boulevard, 10th Floor  
Overland Park, Kansas 66211  
Tel: (913) 777-5604  
lydia.raw@eriseip.com

FOR THE RESPONDENT:

MICHAEL C. POMEROY  
COZEN O'CONNOR  
1717 Main Street, Suite 3100  
Dallas, Texas 75201  
Tel: (214) 462-3000  
Mpomeroy@cozen.com

Also Present:

CHRISTINE STROIA (Concierge)

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I N D E X

PAGE

|                                  |    |
|----------------------------------|----|
| Appearances .....                | 2  |
| Stipulations .....               | 4  |
| SCOTT ANDREWS                    |    |
| Examination by Mr. Pomeroy ..... | 4  |
| Examination by Ms. Raw .....     | 79 |
| Reporter's Certificate.....      | 81 |

E X H I B I T S

| NO.       | DESCRIPTION | PAGE |
|-----------|-------------|------|
| Exhibit 1 | Declaration | 6    |
| Exhibit 2 | Declaration | 31   |

1 THE REPORTER: Ms. Raw, do you want a copy  
2 of the deposition?

3 MS. RAW: Yes, please.

4 THE REPORTER: Mr. Pomeroy's office  
5 requested the transcript by the end of the day. Do you  
6 want yours by the end of the day?

7 MS. RAW: No, no rush for us.

8 SCOTT ANDREWS,  
9 having been duly sworn, testified as follows:

10 EXAMINATION

11 Q. (BY MR. POMEROY) Good morning, Mr. Andrews.  
12 My name is Michael Pomeroy. Counsel on behalf of patent  
13 owner in this proceeding. You understand that you're  
14 here today to provide testimony regarding your  
15 declaration in IPR2025-00032?

16 A. Yes, I do.

17 Q. You've provided testimony in deposition before;  
18 is that correct?

19 A. Yes, I have.

20 Q. I'll go briefly over some ground rules,  
21 especially because we're on Zoom. Provide verbal  
22 answers, no head nods, things of that nature. If you  
23 don't understand a question, you know, and I'll do my  
24 best to rephrase. And, of course, you know, give some  
25 time for your counsel to object. And if you need to

Page 4

1 take a break, let me know. We can always do that. And  
2 I'm going to try to be efficient with our time today. I  
3 don't like wasting anybody's time, so I'm not trying to  
4 make this last all day.

5 All right. I'm going to try my best to not  
6 exposing my lack of technology. Do you have the Exhibit  
7 Share?

8 A. I do.

9 Q. Okay. I'm going to try to introduce your  
10 declaration.

11 MS. RAW: Michael, Scott does have a clean  
12 paper copy and a clean electronic copy of all of the  
13 documents if it's easier for you to refer to those.  
14 You're, of course, welcome to use Exhibit Share, but I  
15 often have technical issues with it so I wanted to let  
16 you know.

17 THE WITNESS: I have a full clean folder  
18 with all the documents, and I also have the requisite  
19 giant binder of paper.

20 Q. (BY MR. POMEROY) And I personally don't care.  
21 Whatever is easiest for you. You know, I just want to  
22 make sure that we're all kind of talking about the same  
23 things and looking at the same things, so.

24 A. Sure. I -- I guess I'd be fine if we just -- I  
25 can use the documents that were sent to me the other day

1 and if it appears that there's some difference, then  
2 we'll put it in Exhibit Share if that works for you.

3 Q. That's fine. Just -- that works for me.

4 A. I -- I don't think there are any differences,  
5 so we should be good.

6 Q. Okay.

7 MR. POMEROY: So what I introduced was,  
8 just for the record, as Exhibit 1, is your declaration.

9 (Exhibit No. 1 was marked.)

10 THE WITNESS: Okay.

11 Q. (BY MR. POMEROY) And you have a copy of that,  
12 correct?

13 A. Yes, I do.

14 Q. Okay. Sitting here today, are you aware of any  
15 mistakes in your declaration?

16 A. I'm not aware of any. There may be a handful  
17 of typos, but nothing substantive.

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

20 A. Let's see. I read my declaration, read the  
21 patent, read the patent owner preliminary response and  
22 the institution decision and Dr. Goldberg's declaration.  
23 And sat with Ms. Raw for a few hours.

24 Q. And so you stated you reviewed the patent owner  
25 preliminary response, Dr. Goldberg's declaration --

Page 6

1 forgive me if I missed. Did you review the institution  
2 decision?

3 A. Yes, I did.

4 Q. Did -- did any of those documents that  
5 obviously weren't, you know, with you when you prepared  
6 your declaration change any of your opinions?

7 A. I'm sorry. You broke up. Or you froze.

8 Q. I apologize. I --

9 A. Those documents?

10 Q. Did any of those documents that you reviewed,  
11 that, you know, occurred after you submitted your  
12 declaration change any of the opinions submitted?

13 A. Can't -- couldn't hear you. Sorry.

14 MR. POMEROY: Is everybody else having that  
15 issue?

16 MS. RAW: I am not. I am able to hear you,  
17 Michael.

18 THE WITNESS: Let's try it again. Did any  
19 of those documents...

20 Q. (BY MR. POMEROY) That you reviewed after  
21 submitting your declaration, such as the institution  
22 decision, the patent preliminary response, or  
23 Dr. Goldberg's declaration change any of the opinions  
24 submitted in your own declaration?

25 A. No.

Page 7

1 Q. Just a ballpark, how many depositions have you  
2 given in your career?

3 A. So many, I've lost count at this point. I  
4 think probably it's at least 50 and maybe on the high  
5 end of 70.

6 Q. Do you know approximately how many of those are  
7 for IPR proceedings?

8 A. Gosh, most of them. Probably -- really, since  
9 2016 probably 80 percent of the work that I've done has  
10 been IPR. So probably about at least two-thirds of  
11 them.

12 Q. And in those IPRs, about what percentage of  
13 those are you providing a declaration on behalf of  
14 petitioner?

15 A. Probably about 95 percent.

16 Q. Do you know when the last time is that you  
17 provided a declaration on behalf of the patent owner?

18 A. Oh, I'd have to go back and look. I have -- I  
19 tend to work mostly with large tech companies, and they  
20 generally get sued. They don't sue people. So the few  
21 times that I've worked on the patent owner response  
22 side, it's been cases where there -- you know,  
23 competitive companies are going up against each other.  
24 I'd have to go back and look. It's probably been a -- a  
25 couple of years.

1 Q. Approximately how many declarations have you  
2 submitted outside of the present declaration that have  
3 involved electric vehicles?

4 A. Probably 10 to 15.

5 Q. Is this --

6 A. Sorry. Some of those have been declarations  
7 and some of them have been just for case reports or just  
8 for court reports.

9 Q. Understood. Sorry, I lost my train of thought.  
10 Is this the first declaration that you've  
11 submitted for Tesla?

12 A. No.

13 Q. What was the first declaration that you  
14 submitted for Tesla?

15 A. I'd have to go back and look at what the first  
16 one was. I've done multiple cases for Tesla dealing  
17 with everything from charging to steering controls and  
18 other things. So there have been a number of cases for  
19 Tesla.

20 Q. Is it fair to say you started working for Tesla  
21 within the last five years, or has it been longer?

22 A. It's probably within the last five years, yeah.

23 Q. All right. So I'm gonna -- I just want to walk  
24 through the -- Claim 1 of the '338. So I -- I  
25 personally don't care what you -- what kind of is -- you

1 know, the -- need kind of the breakdown in your  
2 declaration or the patent itself. What -- whatever you  
3 think is easiest?

4 A. Okay. I'm looking at the claim listing that's  
5 on page 17 of my declaration.

6 Q. Probably the same. Okay. So you see Claim 1.  
7 Do you see that first limitation that you've labeled  
8 Claim 1[a]? It says "a vehicle sensor"?

9 A. Yes.

10 Q. What is a vehicle sensor?

11 A. It is a sensor to -- it's either a sensor on a  
12 vehicle or a sensor for a vehicle.

13 Q. Okay. So does the vehicle sensor as claimed  
14 need to be on the vehicle?

15 A. As claimed, it doesn't matter.

16 Q. Does it need to be on a vehicle or on a  
17 electrical charging station?

18 A. Could be either. You could -- depending on the  
19 configuration. The claim doesn't -- the claim doesn't  
20 specify.

21 Q. Is there any -- in your opinion, is there any  
22 limitation or constraint as to where the location of  
23 this vehicle sensor is?

24 A. It needs to be located in a -- in a location  
25 that allows it to be in communication with the

1 processor.

2 Q. And where is the processor located?

3 MS. RAW: Objection, form.

4 THE WITNESS: It doesn't matter. It  
5 doesn't matter. Doesn't -- the claim doesn't specify.

6 Q. (BY MR. POMEROY) Do you see -- moving a little  
7 bit further down. Claim 1[e], (Reading:) Receive, from  
8 the vehicle sensor, information indicative of the  
9 presence of an electric vehicle in a parking space?

10 A. I see that.

11 Q. Okay. What is information indicative of the  
12 presence of an electric vehicle in a parking space?

13 A. It would be some kind of a -- presumably a  
14 signal, I'm going to call it that. It could be, you  
15 know, a mathematical variable or a logical variable in a  
16 system, but it would be represented as a signal that  
17 indicates that a vehicle is in a parking space.

18 Q. And in the context of the -- of Claim 1 of the  
19 '338 Patent, what is a parking space?

20 A. It's a place where the vehicle is parked.

21 Q. So can a parking space be anything?

22 A. Well, the vehicle would need to be parked there  
23 for it to be a parking space.

24 Q. If the vehicle's, just a hypothetical, parked  
25 on a hill on the side of the road, is -- is that a

Page 11

1 parking space in the context of Claim 1 of the '338  
2 Patent?

3 MS. RAW: Objection, form.

4 THE WITNESS: Well, there would -- there  
5 would need to be a charging station in that parking  
6 place. So if there's a charging station on the side of  
7 the road on a hill, yes.

8 Q. (BY MR. POMEROY) Okay. So there needs to be a  
9 charging station for the parking space?

10 A. The -- let me take a quick look at the claim.  
11 The claim doesn't specify that. It implies that because  
12 in Claim element 1[i], you are charging the vehicle in  
13 accordance with the charging schedule. But the claim  
14 doesn't specifically state that the parking space has to  
15 be colocated with the charging station.

16 Q. Given the implications and read in the context  
17 of the specification from the '338 Patent, does the  
18 parking space in which the vehicle is then provided  
19 position in which the vehicle can be charged?

20 A. That is how I interpret it, yes.

21 Q. So if the parking space is in a location where  
22 the vehicle couldn't be charged, would that still be a  
23 parking space in the context of Claim 1 of the '338  
24 Patent?

25 A. Well, Claim 1, as I said earlier, doesn't

1 explicitly require that. So I -- that's -- the claim  
2 doesn't explicitly require that.

3 Q. In your opinion, what is the purpose of the  
4 charging system receiving information indicative of the  
5 vehicle being in a parking space?

6 A. Well, the vehicle being in --

7 MS. RAW: Objection, calls for speculation.  
8 Continue.

9 THE WITNESS: Oh, sorry.

10 The vehicle -- the purpose of it being --  
11 the purpose of sensing that the vehicle is in a parking  
12 space is to initiate the -- the rest of the elements of  
13 this claim, which are, you know, communicating various  
14 charging information and preferences back and forth  
15 between the charging system and the vehicle.

16 Q. (BY MR. POMEROY) Moving a little bit further  
17 down. Do you see Claim 1[h], it's the long one?

18 A. Yes.

19 Q. I'm just going to kind of break it down as we  
20 go. Do you see -- the limitation, (Reading:) Wherein  
21 at least one of the one or more charging preferences is  
22 defined by user input received via a graphical user  
23 interface and adapted to display a vehicle charge  
24 indicator element.

25 A. I see that.

1 Q. I just want to kind of break this down because  
2 it is long. What is a graphical user interface?

3 A. It is a -- typically a display that provides a  
4 graphical display in order to provide information to a  
5 user. It may include -- so from that perspective, it's  
6 a graphical output device or a display output device.  
7 It may also include some provision for receiving input  
8 from the user.

9 Q. Does it need to be a touchscreen?

10 A. Doesn't have to be. There are plenty of  
11 graphical user interfaces that use things like -- well,  
12 your laptop uses a touch pad, not a touchscreen. So it  
13 doesn't have to be a touchscreen.

14 Q. And do you see -- I'm just going to go to  
15 the -- the last kind of limitation or -- sorry.  
16 Withdraw that.

17 You see the -- the element that says the  
18 "vehicle charge indicator element"?

19 A. Yes. Near the bottom?

20 Q. Yeah, near the bottom.

21 A. Yeah.

22 Q. What is a vehicle charge indicator element?

23 A. Well, this is a -- the -- that term first  
24 appears in that third line of this claim element where  
25 the graphical user interface is adapted to display a

Page 14

1 vehicle charge indicator element. And that is further  
2 defined as -- within the context of the graphical user  
3 interface. It's a thing that allows -- it's a display  
4 that allows you to see -- I have to get the Acrobat  
5 stuff out of the way. See the amount of charge that  
6 resides in the battery and the amount of uncharged  
7 capacity of the battery.

8 Q. And the -- the vehicle charge indicator element  
9 has a third portion, and that's the slider, correct?

10 A. That's right.

11 Q. Now, is the vehicle charge indicator element a  
12 single element that has kind of a single function on a  
13 graphical user interface?

14 A. I'm not sure what you mean by "single element".  
15 There are three components that are described in the  
16 claim limitation associated with this charge indicator  
17 element. And so what do you mean by single element?

18 Q. Let me ask you this. If I had a picture of  
19 a -- a battery up top like what you say on a graphical  
20 user interface and then below that, I have a separate  
21 slider bar, would those two together just, like,  
22 display, you know, one on top of each other. Not  
23 merged, but displayed separately. Would that meet the  
24 limitation of a vehicle charge indicator element?

25 MS. RAW: Objection, form.

1 THE WITNESS: I don't see why not. You  
2 know, the -- the -- the vehicle charge indicator element  
3 is not a term of art. And you could define -- you know,  
4 a person of skill in the art would understand that the  
5 vehicle charge indicator element needs to have specific  
6 components. It needs to have some indication of the  
7 charge level in the battery and the remaining available  
8 charge capacity and it needs to have a slider.

9 There's nothing in the claim here that says  
10 that those all have to be superimposed on the exact same  
11 pixels. So you could define that -- that indicator  
12 element as having a portion that shows the battery  
13 capacity -- the battery state and another portion  
14 perhaps separate from it that shows the available  
15 capacity. And another portion of it would be the slider  
16 that would allow you to set various parameters.

17 There's nothing that says -- there's  
18 nothing in this claim that -- that -- that prescribes  
19 exactly what the graphical layout of this has to be.

20 Q. (BY MR. POMEROY) So in your opinion, these  
21 three portions, they don't have to function together on  
22 the graphical user interface; is that correct?

23 MS. RAW: Objection, form.

24 THE WITNESS: What do you mean by "function  
25 together"?

1           Q. (BY MR. POMEROY) Well, the slider doesn't have  
2 to -- you know, just like you said, it can be separate.  
3 It can be, you know, the -- the battery is up top and  
4 then the slider is just kind of down below. They --  
5 they don't have to, you know, be cohesive in a single  
6 unit or anything like that?

7           A. I don't see anything in this claim that says  
8 that the slider is superimposed on the portion of the  
9 display that's displaying the level of charge of the  
10 battery. That's certainly one way a person of skill in  
11 the art would put it together. But there's no  
12 requirement that it be done that way.

13          Q. In your experience, have you ever, you know,  
14 built or designed a graphical user interface application  
15 or widget that has a slider element?

16          A. I've certainly used slider elements as part of  
17 displays that I've put together. I don't recall whether  
18 I wrote the code to create the slider but -- because  
19 that already existed. But I've certainly applied  
20 sliders in graphical user interfaces that I've  
21 developed.

22          Q. Would a POSITA -- scratch that.

23                 Would a person of ordinary skill in the art  
24 for the '338 Patent know how to write the code for a  
25 slider?

1           A. They -- they would. They also wouldn't have  
2 to, because it's already established, certainly by  
3 the -- by the priority date of this patent. That person  
4 would go to a library of widgets or whatever and  
5 essentially adopt one. But if they wanted to, they --  
6 they certainly would have the skills to write the code  
7 to implement the slider. And they might, depending on  
8 how they wanted to lay it out graphically. If there  
9 wasn't one that they could use that met their particular  
10 objectives with graphical objectives, they would  
11 certainly then write the code to do it.

12           Q. Got it. Okay. So you mentioned libraries. So  
13 given the priority date -- sorry, strike that.

14                       Prior to the priority date for the '338  
15 Patent, were there graphical user interface libraries to  
16 implement a slider available?

17           A. I'd have to go back and look, but there have  
18 been graphical user interface libraries for building  
19 various GUI elements since the mid-1980s.

20           Q. Are you aware of a particular library to build  
21 a slider prior to 2009?

22           A. I would have to go look at the library.  
23 There -- there are at least three or four well  
24 established computer GUI libraries. I just can't  
25 remember them right off the top of my head today.

1 Q. Okay. So it's fair to say sitting here today,  
2 you're not able to name any specific library that had a  
3 slider prior to 2009?

4 A. I'd have to go research that to make sure that  
5 the library that I'm thinking of, whose name I can't  
6 recall, it will come to me in the next few minutes,  
7 included a slider. But I'm confident that it would.

8 Q. And I'm not trying to put words in your mouth.  
9 Just, you know -- so to your understanding, there were  
10 sliders, you just can't remember because, you know,  
11 that's almost 20 years ago?

12 A. Yes.

13 Q. Does your work -- do you work -- have you  
14 ever -- strike that. Sorry.

15 Have you ever performed any work for  
16 electric vehicles?

17 A. Yes.

18 Q. And what work was that?

19 A. I guess -- I guess let me -- let me -- let me  
20 clarify that question. You asked if I've performed work  
21 for electric vehicles. Do you mean the electric vehicle  
22 was in need of me doing something or do you mean have I  
23 worked on them?

24 Q. I mean for the design of the electric vehicle?

25 A. Okay. So have I ever worked on the design of

1 an electric vehicle, is that your question?

2 Q. Yes.

3 A. Yes, I have.

4 Q. And -- and what work was that?

5 A. The first foray into that was around 2003 or  
6 so. I -- a friend of mine who's a venture capitalist in  
7 Silicon Valley contacted me and suggested that we should  
8 do a car company. And so I was a little surprised at  
9 that, but I entertained his -- his idea. And he  
10 introduced me to a young man from Stanford named J.B.  
11 Straubel, who I think is one of the inventors on one of  
12 the pieces of prior art that's talked about.

13 And J.B. and I spent most of the summer  
14 that year designing a hybrid electric vehicle. It was a  
15 very different sort of electric vehicle that was very  
16 high performance. And I -- we didn't incorporate a  
17 company, but we kind of formed a company which I then  
18 started to pitch to various investors. And as we got  
19 into it, I -- I recall going -- I was on a trip to  
20 Japan, and I recall meeting with some of the board  
21 members at Toyota because I wanted them to -- to -- one  
22 of them to join our board.

23 And basically was told that, you know, this  
24 is going to be a hugely expensive endeavor and that  
25 Toyota's R&D budget was \$10 billion a year, so there was

Page 20

1 no way I would ever raise enough venture capital to be  
2 able to be successful. So we decided to shelve that  
3 project and didn't take it any further. J.B., shortly  
4 thereafter, joined Tesla as the third employee, and was  
5 later the CTO.

6 Q. Outside of that, have you ever been retained by  
7 a company that sells, you know, in a commercial manner,  
8 electric vehicles to help design, you know, aspects of  
9 their products?

10 A. Yes. In fact, before that, back in 1992, I was  
11 approached by Ford because they wanted me to -- or they  
12 wanted to put together implement a graphical user  
13 interface for an electric vehicle in the car. So I  
14 spent several months developing the graphical user  
15 interface. We implemented it. In this particular case,  
16 we implemented it on a laptop screen that I had remoted  
17 so that it was in the instrument cluster area of the  
18 car. And built a touch pad interface. This predated  
19 touchscreens. So there was a touch pad that would allow  
20 you to effectively touch elements on the screen or, you  
21 know, to touch the pad in places that were kind of  
22 geographically or geometrically related to touchable  
23 elements on the screen in order to affect various  
24 things.

25 And that included, you know, charge level

1 displays and navigation displays and all kinds of other  
2 stuff. That was -- that was shown on a Ford electric  
3 vehicle concept car.

4 Q. All right. So that's helpful. I just want to  
5 go -- and still in that Claim term 1[h] kind of at the  
6 bottom. And it says, (Reading:) Comprises a slider by  
7 which an amount of charge may be specified.

8 We talked a little bit about, you know, the  
9 slider. But I wanted to kind of ask a little bit, like,  
10 in the context of the '338 Patent, what is an amount of  
11 charge?

12 A. Let me go get the '338 Patent so that we can be  
13 specific about this. It is talked about in the  
14 '338 Patent. Specifically at least at Column 15, lines  
15 1 to 11. And I'm just going to read it because it's  
16 fairly short and it -- I think it encompasses the whole  
17 thing.

18 (Reading:) The user may also or  
19 alternately view and/or change the desired charge range  
20 level. An estimate of how far the vehicle can travel in  
21 a given charge amount (which may be general, average or  
22 may be computed based on the specific itinerary and/or  
23 past driving habits) can be determined, for example, and  
24 utilized to express the desired charge level in terms of  
25 distance capable of being traveled. In such a manner,

Page 22

1 the user may determine a desired distance to travel,  
2 (that is, how far it is from home to work or vice versa)  
3 and may set a desired charge range level to match that  
4 distance.

5 So the -- the patent specifies, and if you  
6 go to figure -- Figure 7, I believe it is, yeah. In  
7 Figure 7, the patent also shows an example of this. It  
8 essentially says that you can just, you know, define the  
9 desired charge level as a percentage or as a number of  
10 miles.

11 Q. Okay. And so would amount of charge, in your  
12 opinion, not be tied to percentage or mileage?

13 MS. RAW: Objection, form.

14 THE WITNESS: It would -- you said it would  
15 not be charged -- or tied to --

16 Q. (BY MR. POMEROY) No, tied to them?

17 A. Oh, tied to them. Well, the -- the amount of  
18 charge, from a formal perspective, would be, you know,  
19 the number of coulombs of electrons or the number of  
20 watt-hours in the battery, none of which is talked about  
21 in the -- in the patent. The -- the use of a percentage  
22 is really just describing a percent value from zero to  
23 100 relative to the total capacity of the battery. And  
24 the use of miles is the same thing. It's just the --  
25 the absolute number of miles relative to the total range

1 of the vehicle. So they are -- they are, in my view,  
2 interchangeable.

3 Q. And so you said amount of charge would  
4 typically be coulombs. So is it your opinion that the  
5 term "amount of charge" has a specialized meaning within  
6 the '338 Patent?

7 A. Yes and no. The -- the -- the '338 Patent  
8 describes the amount of charge, as I just read a minute  
9 ago, as either being, you know, some relative amount --  
10 some -- some fraction of the capacity of the battery or  
11 some number of miles. So it's pretty clear on how that  
12 is described. A -- a -- a person of skill in the art  
13 would have also understood that charge has a formal  
14 scientific definition, and the patent doesn't go into  
15 that. But there -- there is a formal, you know,  
16 quantitative metric that represents an amount of charge.  
17 No one in a user world would understand what it means,  
18 and so there's -- there's no sense in -- in us having a  
19 system that talks about that.

20 But, you know, there -- there is definitely  
21 a formal quantitative metric for that. Actually, it's  
22 multiple ones. And the way it's described in the patent  
23 is in terms of percentage capacity or number of miles  
24 relative to the range.

25 Q. And we talked -- you mentioned Column 15 and I

1 think you read the statement "the desired charge level  
2 in terms of distance capable of being traveled". And  
3 that's line 6 and 7, if my eyes aren't failing me?

4 A. That appears correct.

5 Q. Is there any difference between charge level  
6 and amount of charge?

7 A. I don't perceive that there's any significant  
8 difference, no meaningful difference. Charge -- you  
9 know, level is an amount, so I don't think that a person  
10 reading that would -- would interpret level as being  
11 substantively different from amount.

12 Q. Let me ask you this. If I have two batteries  
13 and have the exact same amount of charge, couldn't those  
14 batteries have different charge levels?

15 MS. RAW: Objection, form.

16 THE WITNESS: Are these identical  
17 batteries?

18 Q. (BY MR. POMEROY) No.

19 A. Well, if I -- if I was referring to charge in  
20 units of charge, which is not how the '338 Patent refers  
21 to it, then it would depend on how I -- how I define the  
22 level versus amount. As it's described in the '338  
23 Patent, the level of charge would be the same as the  
24 amount of charge. It doesn't -- it -- the '338 Patent  
25 doesn't specify any other metrics that could be used.

Page 25

1           Q. Okay. So in your opinion, they would be the  
2 same. If I -- if I had, you know, let's say a  
3 AA battery compared to a car battery, and they have the  
4 same amount of charge, under the context of the  
5 '338 Patent, they would have the same charge level?

6           MS. RAW: Objection, form.

7           THE WITNESS: In the context of the -- how  
8 those terms are used in the '338 Patent, they would not  
9 have the same charge level even though they might have  
10 the same number of coulombs of charge because the charge  
11 level as it's described in the '338 Patent is relative  
12 to the capacity of the battery. So if you have -- which  
13 is either 100 percent or the maximum range as it's  
14 described here in Column 15.

15           So the '338 Patent doesn't contemplate a  
16 situation where you are actually measuring or reporting  
17 the -- the quantitative charge level from the  
18 perspective of number of coulombs or number of  
19 kilowatt-hours or whatever other measure of the actual  
20 charge you wanted to use. It talks about and it defines  
21 amount of charge and charge level as being relative to  
22 the maximum capacity of the battery or the maximum range  
23 that one could get from that battery.

24           So the answer would be to your question, in  
25 the context of '338 Patent, they would not have the same

Page 26

1 amount of charge.

2 Q. (BY MR. POMEROY) Outside of '338 Patent, is it  
3 your general understanding that a battery charge level  
4 and the amount of stored charge are two separate  
5 metrics?

6 A. Not necessarily. It would depend on how you --  
7 how you defined those two terms. You could -- you could  
8 define it either way. And the -- outside of the  
9 '338 Patent, the way you would describe it would be  
10 to -- to describe it from the context of the useful work  
11 that the battery could do, which would be in something  
12 like kilowatt-hours.

13 I used to see that. You know, if you go  
14 buy a DeWalt screwdriver battery, you know, you can buy  
15 a two and a half watt-hour battery or a five watt-hour  
16 battery and, you know, they're -- they're different  
17 sizes and they have different amounts of power in them.

18 Q. Is it fair to say that a battery has a battery  
19 charge level and that battery charge level corresponds  
20 to the amount of energy stored in the battery at a given  
21 point in time?

22 A. Are we talking about the way the term charge  
23 level is used in the '338 Patent, or are we talking  
24 about how -- how an electrical engineer would answer  
25 that question?

1 Q. In terms of the '338 Patent.

2 A. So what -- could you -- repeat the question?

3 Q. In the fairness -- in the context of the  
4 '338 Patent, is it fair to say that a battery has a  
5 battery charge level, and that battery charge level  
6 corresponds to the amount of energy stored in the  
7 battery at a given point in time?

8 A. It, I think, representative of the amount of  
9 charge, but the way you phrased that, amount of charge  
10 stored in the battery, is not exactly something that's  
11 described in the '338 Patent. And this gets back to  
12 that, you know, quantitative measure problem that, you  
13 know, there are quantitative measures of charge. And  
14 the '338 Patent is silent about those.

15 So almost everything -- all of the  
16 references to the charge level or the amount of charge  
17 that are in the '338 Patent are -- are really relative  
18 to the capacity of the battery. And that capacity can  
19 be described according to the '338 Patent in terms of  
20 percentage of total capacity or it can be described in  
21 terms of number of miles relative to the total range.

22 Q. I'm just -- I'm really trying to understand,  
23 the parent -- you know, the claims obviously use the  
24 amount of charge and then you're referring to Column 15,  
25 which says charge level. In your opinion, are those two

Page 28

1 the same thing?

2 MS. RAW: Objection, form.

3 THE WITNESS: Give me a minute. I'm going  
4 to read through the patent.

5 So there's only one place that the term  
6 amount of charge is used in the specification. And so  
7 you -- what was your question again?

8 Q. (BY MR. POMEROY) Based off your understanding  
9 of the '338 Patent, is there any difference between the  
10 term amount of charge and charge level?

11 A. I'd say the '338 Patent doesn't specify --  
12 doesn't -- doesn't specify that one way or the other.  
13 It uses the two terms in the specification to refer to  
14 charging the battery and how much -- how much you're  
15 going to charge the battery. But it doesn't provide a  
16 comparative description. It just uses those terms.  
17 Essentially, you know, in my view, it uses those terms  
18 interchangeably in different places referring to various  
19 aspects of the battery charge.

20 Q. Separate and apart from '338, just your general  
21 knowledge as an engineer, amount of charge and charge  
22 level would have two different meanings; is that  
23 correct?

24 A. Not necessarily. Charge level is, if -- if my  
25 definition of level is a quantity of charge, then they

1 would be exactly the same assuming that amount of charge  
2 is measured in terms of quantity of charge. But I could  
3 easily describe that amount of charge means percentage  
4 of charge in the battery, and now level and amount are  
5 exactly the same.

6 So there's no -- there's no specific --  
7 there are no hard definitions of those terms in the  
8 battery world. You would need to describe what you mean  
9 by level or amount. Because you could do it -- you  
10 could describe it either way.

11 MR. POMEROY: I'm trying to upload  
12 something, but it's not -- I'm trying to introduce an  
13 exhibit.

14 THE WITNESS: Which one?

15 MR. POMEROY: It's not one that's in the  
16 record currently.

17 MS. STROIA: Let me know if you need  
18 anything. Just for your record, you had marked 1  
19 Exhibit 1, and I introduced it and put it in the marked  
20 folder.

21 MR. POMEROY: Okay. All right.  
22 Mr. Andrews, I think the exhibit I've introduced is --  
23 it's there. Let me know if you can see it.

24 THE WITNESS: It's not there yet.

25 MS. STROIA: Yeah, I think you hit mark.

1 But you've got to introduce also. Let me know if you  
2 would like me to -- just tell me the file name, and I  
3 can do it quickly for you.

4 THE WITNESS: There it is.

5 (Exhibit No. 2 was marked.)

6 Q. (BY MR. POMEROY) Okay. So this is an  
7 IPR2020-01189. Is this your declaration?

8 A. It appears so. It's been five years since I  
9 looked at this.

10 Q. If you would like, you can take a moment to  
11 skim through it just to make sure there isn't another  
12 Scott Andrews.

13 A. No, I'm pretty -- I remember working on this  
14 case. I just don't remember what the case was about.

15 Q. Okay. Can you go to Paragraph 79 for me?

16 A. Okay.

17 Q. Do you see the statement, (Reading:) A POSITA  
18 would have appreciated that a battery has a battery  
19 charge level corresponding to the amount of energy  
20 stored in the battery at a given point in time.

21 A. Yeah.

22 Q. And then do you see where you say, (Reading:)  
23 A battery charge level may be expressed in terms of  
24 amount of stored charge (for example, as measured in  
25 milliAmp-hours) or in terms of a fraction of total

Page 31

1 capacity (for example as measured in percentage).

2 A. Yeah, that's exactly what I described two  
3 minutes ago.

4 Q. So if it's express -- if -- if a battery's  
5 charge level is expressed in terms of amount of stored  
6 charge, then amount of stored charge would be different  
7 than a battery charge level, correct?

8 MS. RAW: Objection, form.

9 THE WITNESS: If -- could you state that  
10 again?

11 Q. (BY MR. POMEROY) So if I'm expressing a  
12 battery charge level in terms of the amount of stored  
13 charge such as what you say, milliamp-hours, then it  
14 would logically be that a battery charge level is  
15 different than the amount of stored charge?

16 A. That's not what I say here. What I say here is  
17 that the battery charge level may be expressed in terms  
18 of an amount of stored charge.

19 So you can -- you can -- you can express it  
20 either way. You can express the charge level as an  
21 amount of stored charge or you can express the charge  
22 level as a percentage of the capacity of the battery.  
23 And you're free to express it either way. You just have  
24 to say which way it is.

25 Q. Is there any limitation on the way or manner

1 you could express a battery charge level?

2 A. Well, there obviously are some limitations.  
3 You can't express the battery charge level as, you know,  
4 a -- a -- a temperature or, you know, a number of -- of  
5 feet or something. But you could certainly, you know,  
6 as -- it depends on how you are applying the battery.  
7 You can express the battery charge level as I said here  
8 as a number of milliamp-hours. You can express it as a  
9 percentage capacity. If you're using it in a laptop,  
10 you can express it as number of hours that the thing  
11 will last. It really depends entirely on the  
12 application.

13 But I think my statement here is -- it  
14 supports what I've been saying that the battery charge  
15 level can be expressed either as some specific absolute  
16 amount of charge, for example, milliamp-hours or as some  
17 fraction of the total capacity. You just have to  
18 describe which it is.

19 Q. I'm looking at fraction of total capacity. You  
20 state that the amount of charge can be represented as  
21 range level. Would you agree that in order to know --  
22 to select a desired amount of charge based off range  
23 level, a user would have to know the maximum range level  
24 for that battery?

25 A. Yes, it would.

1 Q. All right. I'm going to go back to the claim.

2 A. Are we done with this exhibit?

3 Q. Yeah, we are.

4 Okay. Just moving a little further down to  
5 you see Claim 1[k] where it states, (Reading:) Display  
6 via the graphical user interface an indication of a  
7 status of a selected mode of operation vehicle?

8 A. I see that.

9 Q. What does it mean to "display via the graphical  
10 user interface"?

11 A. It means to present some sort of information in  
12 a graphical manner on the display.

13 Q. Is -- where is the graphical user interface in  
14 Claim 1?

15 A. The -- sorry. You didn't hear my phone, but my  
16 phone talks to my computer.

17 The claim doesn't explicitly state the  
18 location of the graphical user interface. But from the  
19 context of the claim, it is clear that it's in the  
20 vehicle because it's displaying things associated with  
21 the vehicle. It doesn't have to be and it doesn't say  
22 specifically that it's in communication with the  
23 processor. But I don't know that it would be feasible  
24 to implement it some other way.

25 It does -- it does talk about having some

Page 34

1 of the displayed elements in later claims available on a  
2 web browser or in a smartphone, which would imply that  
3 the graphical user interface could be remote. So it  
4 doesn't specify.

5 Q. Going just to the next limitation 1[l], do you  
6 see where within that limitation where it says,  
7 (Reading:) Selected mode of operation comprises  
8 maintaining the interior -- interior temperature of the  
9 electric vehicle suitable for a pet within the electric  
10 vehicle.

11 A. Yes.

12 Q. What does "maintain the interior temperature"  
13 mean?

14 A. It means that you have -- that the -- the mode  
15 of operation will be that the temperature will be  
16 increased or decreased depending on the conditions in  
17 the vehicle. So -- and by that, it's, you know, it's --  
18 obviously, a vehicle sitting outside is going to heat  
19 up. And so if you -- you're going to maintain the  
20 temperature of the vehicle, then you need to cool the  
21 interior of the vehicle to compensate for the fact that  
22 it's trying to heat up because of, in this case, because  
23 of the sun.

24 Similarly, if you were parked, you know, in  
25 a -- in a snowy place where it's cold outside, the

1 temperature of the vehicle would be trying to drop all  
2 the time and you'd need to add heat to the vehicle in  
3 order to maintain the temperature.

4 Q. And is this selected mode of operation, is it  
5 occurring when the vehicle is off? Sorry. Let me  
6 restate that.

7 Is this occurring when the vehicle is  
8 parked?

9 A. According to Claim element 1[j], you receive  
10 this mode of operation when the vehicle -- while the  
11 vehicle remains in a parked state. So you would  
12 certainly have to receive the temperature and you will  
13 set the temperature control set point to maintain the  
14 temperature while the vehicle is parked.

15 So the -- the claim element that you were  
16 talking about, 1[l] itself doesn't say that it's  
17 maintaining the interior temperature while the vehicle  
18 is parked. But the -- it -- it's only related to the  
19 patent. But in 1J, it's more specific that the  
20 temperature is maintained while it remains in a parked  
21 state.

22 Q. Is the vehicle being charged during this time?

23 MS. RAW: Objection, form.

24 THE WITNESS: There is no requirement in  
25 the claim that this -- the elements 1[j], [k], [l], [m]

1 or -- 1[j], [k], [l], or [m] be performed while the  
2 vehicle is being charged or not. It's just a -- it's an  
3 appendage that was tacked on to the base claim, I think.

4 Q. (BY MR. POMEROY) Okay. And you didn't mention  
5 Claim 1[n]. Is it your opinion that the vehicle is  
6 being charged during Claim 1[n]?

7 MS. RAW: Objection, form.

8 THE WITNESS: 1[n] doesn't specify whether  
9 the threshold is an upper threshold or a lower  
10 threshold. So you can imagine getting an alert when  
11 your battery is charged and you're sitting in a coffee  
12 shop and you need to wrap up and get back to your car or  
13 you could imagine that you'd parked your car and had the  
14 pet mode on and your battery is now at a lower level and  
15 you're being warned that you're going to not be have --  
16 not have any power in your battery when you get back to  
17 your car. Could be either way.

18 Q. (BY MR. POMEROY) So you kind of fast tracked  
19 my next couple of questions, so I'll try to be brief on  
20 them.

21 So the suitable for the pet located within  
22 the vehicle, you kind of just stated, but you'd agree  
23 the purpose of that is so that the driver or operator  
24 could leave the vehicle?

25 A. I'd be speculating as to that. It's not

1 described in the claim. The -- the concept here is that  
2 the -- whether the owner is in the vehicle or not, the  
3 temperature would be maintained so it would be suitable  
4 for a pet that was in the vehicle.

5 Q. I just want to go down to Claim 1[n].

6 A. N, as in Nancy?

7 Q. N as in Nancy.

8 A. Okay.

9 Q. Do you see the -- it's, like, the second part  
10 that -- it says "send an alert to an operator".

11 A. Yeah.

12 Q. What's the difference between displaying an  
13 alert and sending an alert?

14 A. Sending an alert means that you have conveyed  
15 it in some way. Displaying an alert is a form of  
16 sending an alert, but it is not -- it -- it's a more  
17 limited form of -- of sending an alert. You could send  
18 an alert, you know, audibly or, you know, with vibration  
19 or any number of modes that might get the attention of  
20 the -- of the operator. So sending the alert is more  
21 general than to -- necessarily than displaying it. But  
22 display could be achieved by sending the alert.

23 Q. In the context of Claim 1 of the '338 Patent,  
24 is there any difference between sending an alert to an  
25 operator or displaying an alert via the graphical user

1 interface?

2 A. Let me look at the patent. So what was your  
3 question again?

4 Q. In the context of Claim 1 of the '338 Patent,  
5 is there any difference between sending an alert to an  
6 operator or displaying an alert via the graphical user  
7 interface?

8 A. Give me one minute. Sorry, it's a long claim.  
9 Almost done. I'm sorry. Could you repeat the question  
10 one more time?

11 MR. POMEROY: Court reporter, could you  
12 read it back by any chance?

13 (Requested question was read.)

14 THE WITNESS: Almost ready to give you an  
15 answer.

16 No.

17 Q. (BY MR. POMEROY) There's no difference?

18 A. There's no specification of how that alert --  
19 no specification of where the operator is and how that  
20 alert is to be conveyed. So if you have an operator in  
21 the vehicle and you have a GUI, you can send the alert  
22 to the operator via the GUI. If the operator is out of  
23 the vehicle, as I said earlier, having a cup of coffee  
24 somewhere, you can send the alert to his phone and it'll  
25 maybe send him a -- a voice call or any number of ways

Page 39

1 that you could do it. But it -- you know, you could  
2 send it remotely or you could do it in the vehicle  
3 depending on where the operator happens to be.

4 MR. POMEROY: We've been going a little  
5 over an hour. Is it okay if we take a five-minute break  
6 for a bathroom or ten minutes actually?

7 THE WITNESS: Sure, five or ten is fine.

8 MR. POMEROY: Just come back at -- let's  
9 say, 12:20 Central or 10:20 your time. Does that work?

10 (Brief recess.)

11 Q. (BY MR. POMEROY) Welcome back, Mr. Andrews.  
12 You stated -- we talked a little bit earlier about  
13 predefined threshold, which is the last limitation of  
14 Claim 1. I just want to ask; what does a predefined  
15 threshold mean?

16 A. So 1[n], as in Nancy, a predefined threshold,  
17 let me make sure that I don't say something specific  
18 about that. A predefined threshold is a value in  
19 whatever value system you're using at either above which  
20 or below which an -- an event is declared. So  
21 something -- something occurs when you cross the  
22 threshold. So it needs to be defined in advance.  
23 That's the predefined part of it. And the threshold  
24 means that it's a -- a specified boundary that when  
25 crossed, something is supposed to occur.

1 Q. Does the predefined threshold relate to charge  
2 level?

3 MS. RAW: Objection, form.

4 THE WITNESS: It relates to the -- in this  
5 particular claim limitation, it's written that you are  
6 determining that an amount of charge residing in the  
7 battery has reached a predefined threshold.

8 Q. (BY MR. POMEROY) And is there any requirement  
9 that the user defines what the predefined threshold is  
10 within the context of Claim 1?

11 A. Not that I'm aware of. It could be set by the  
12 user or could be set by the manufacturer. There's no  
13 description in the claim as to how that gets set.

14 Q. And Claim 1[n] reside -- (Reading:) Determine  
15 that an amount of charge residing in a battery in the  
16 electric vehicle has reached the predefined threshold.

17 What is the purpose of determining if the  
18 battery has reached a predefined threshold?

19 MS. RAW: Objection to form.

20 THE WITNESS: In the context of the claim,  
21 it would be to initiate the sending of the alert to the  
22 operator to inform the operator that the battery has  
23 reached that threshold.

24 Q. (BY MR. POMEROY) And we've -- we've talked a  
25 little bit about the operator. Who is the operator? Is

1       that the -- the driver?

2           A. It's my understanding that it would be the  
3       person in control of the vehicle. So presumably the  
4       driver. He might not be driving at the time, but it  
5       would be the person who is currently -- currently using  
6       or operating the vehicle or maybe the person who parked  
7       the vehicle and is planning to operate it. So the  
8       operator is normally the driver of the vehicle.

9           And because there's no requirement that --  
10      in -- when this claim limitation is -- that is performed  
11      where the operator needs to be, they could be in the  
12      vehicle or if it was per some later claim element, they  
13      could be remote from the vehicle and be informed.

14          Q. And there's no requirement that the operator is  
15      in the vehicle, right?

16          A. There is no statement about where the operator  
17      is. They -- so the operator being in the vehicle, they  
18      would be informed by the display, and if the operator  
19      was remote from the vehicle, they would be informed  
20      remotely.

21          Q. Given the context of the claim, especially  
22      Claim element 1[l] where you're maintaining the  
23      temperature suitable for a pet, is it likely that the  
24      operator is not in the vehicle?

25                 MS. RAW: Objection, form.

Page 42

1 THE WITNESS: I don't think -- I don't  
2 think it's stated one way or the other. And I'm, you  
3 know, not sure what you mean by likely. There are all  
4 kinds of reasons why the operator might choose to want  
5 to maintain the interior temperature for a -- a pet in  
6 the vehicle. And they could be in the vehicle or, as I  
7 said, they could be outside the vehicle at the -- at the  
8 time that the temperature was being maintained for the  
9 pet.

10 Q. (BY MR. POMEROY) With your opinion if the  
11 operator ever leaves the vehicle in Claim 1 of the '338  
12 Patent?

13 MS. RAW: Objection, form.

14 THE WITNESS: The claim doesn't say where  
15 the operator is. In Claim element 1[j], the operator is  
16 presumed to be in the vehicle. He -- he is wherever the  
17 user interface is, and in 1[k], he is also wherever the  
18 user interface is because he's -- he has selected that  
19 mode of operation. But Claim N, Claim element 1[n]  
20 doesn't say that the operator has to have exited the  
21 vehicle or is still in the vehicle.

22 Q. (BY MR. POMEROY) Is it fair to say that you  
23 provided motivations to combine for references within  
24 your declaration that include providing peace of mind  
25 for the operator to leave the vehicle?

1 MS. RAW: Objection, form.

2 THE WITNESS: That is one of the  
3 motivations to combine, yeah.

4 Q. (BY MR. POMEROY) So it's fair to say one of  
5 the motivations to combine you provide is to allow the  
6 operator to leave the vehicle?

7 MS. RAW: Objection, form.

8 THE WITNESS: It is certainly a motivation  
9 the include -- it's a motivation to inform the user  
10 that -- or the operator that they have activated a mode  
11 that will maintain the temperature appropriate for the  
12 pet. And if they chose to leave the vehicle, they could  
13 do that with some peace of mind that the vehicle is not  
14 going to heat up. There's no requirement that they  
15 leave the vehicle in order to have that peace of mind.

16 Q. (BY MR. POMEROY) Okay. I want to go to your  
17 opinion on 1[n] to make sure I kind of understand it.

18 A. N as in Nancy?

19 Q. Yes. Okay. So I just want to make sure that I  
20 kind of have your -- just your position. I'm not trying  
21 to put words in anybody's mouth.

22 You're relying on Donnelly for the  
23 limitation of sending an alert to an operator of the  
24 electric vehicle; is that correct?

25 A. Yes.

1           Q. Are you relying on Donnelly to determine from  
2 an amount of charge the battery's reached the predefined  
3 threshold?

4           A. No, I'm relying on Ferro for that.

5           Q. Can you point me to the paragraph in your  
6 declaration where you're relying on Ferro for that?

7           A. Let me -- I'm sorry. I actually rely on both  
8 Donnelly and Ferro for that. So in Paragraph 292, I  
9 point to Ferro's charging plan or whatever it is, the  
10 preferences, where he defines minimum and maximum  
11 levels. And I say thus -- this is line -- one, two,  
12 three, four lines into Paragraph 292, (Reading:) Thus  
13 Ferro teaches determine [] an amount of charge residing  
14 in the battery of the electric vehicle.

15                       And then when we get down to Donnelly,  
16 Donnelly is a bit more involved. But Donnelly -- in  
17 295, I point out that Donnelly describes, (Reading:)  
18 Setting "upper and lower set points to define the  
19 operational range of the energy storage unit".

20                       And then as a result of that, Donnelly has  
21 this warning when you cross that threshold. And so in  
22 Paragraph 298, I say, (Reading:) Thus, given Donnelly's  
23 disclosures, Donnelly teaches determin[ing] an amount of  
24 chargers residing in a battery has reached a predefined  
25 threshold. And he also teaches sending the alert.

Page 45

1                   So both Ferro and Donnelly describe  
2     determining when the amount of charge has reached the  
3     threshold. Ferro doesn't describe what's done with  
4     that, but Donnelly does in -- in the case of sending an  
5     alert.

6           Q. And on the Donnelly system, the graphical user  
7     interface is in -- in the train, but it would be in the  
8     vehicle, correct?

9           A. It certainly could be in the vehicle. Let me  
10    double-check. Looking in my table of contents to figure  
11    out where this is. Yes, in my -- in Paragraph 213, near  
12    the bottom of 213 I say, (Reading:) Thus, a POSITA  
13    would have understood or found it obvious that  
14    Donnelly's GUI touch screen would be implemented in  
15    electric vehicle, such as a car.

16          Q. Okay. So we've gone over this. But the last  
17    limitation is "send an alert to an operator". In the  
18    Donnelly system, as you presented for at least ground  
19    one, if the operator is not in the vehicle, would the  
20    Donnelly system alert that operator?

21                   MS. RAW: Objection, form.

22                   THE WITNESS: Well, if the operator is not  
23    in the vehicle, then I believe -- let me look.

24                   So in Claim 1, I've described the graphical  
25    user interface, Donnelly's graphical user interface as

1 being installed in the vehicle. And you're asking me to  
2 speculate on what would happen if the -- if the operator  
3 was not in the vehicle at that time?

4 Q. (BY MR. POMEROY) Well, if they received  
5 Donnelly's warning.

6 A. Well, if they were not in the vehicle, then I  
7 would go to Claim 5 where the graphical user interface  
8 is part of a smartphone and they would receive the  
9 warning presumably on Donnelly's interface, but on a  
10 smartphone.

11 Q. And you yourself state that there's other ways  
12 to send an alert besides a smartphone, such as a voice  
13 call, correct?

14 A. You could, yeah.

15 Q. So there -- there's other ways. It doesn't  
16 just have to be via smartphone or via GUI interface?

17 A. There certainly are other ways you could do it.  
18 But the patent is pretty specific that provides a way  
19 that would be appropriate for when the operator was not  
20 in the vehicle, and that's in Claim 5. They would  
21 receive the alert on a smartphone.

22 Q. Well, how does Donnelly ensure that the  
23 operator receives the alert?

24 A. Donnelly sends the alert. Let me find the  
25 claim again. Donnelly doesn't assure that, and the

1 claim doesn't require it. The claim requires sending an  
2 alert to an operator indicative of the charge residing  
3 in the battery. So you can send it to the operator,  
4 and, you know, they can choose to see it or not,  
5 depending on their circumstance. And if they happen to  
6 not be in front of the GUI, then Claim 1 wouldn't  
7 necessarily apply. You'd move to Claim 5.

8 Q. This alert is sent when the vehicle is parked  
9 and not being charged, correct?

10 MS. RAW: Objection, form.

11 THE WITNESS: Not necessarily. First of  
12 all, as I said earlier, the threshold could be an upper  
13 threshold or lower threshold. And in Claim element  
14 1[i], it says you're charging the vehicle "in accordance  
15 with the charging schedule". There's no temporal  
16 sequence implied here, so it's conceivable that you  
17 could perform all these temperature and pet related  
18 operations, you know, after the vehicle had been charged  
19 or before it was being charged. But doesn't seem to  
20 really be dependent on the vehicle being charged or not  
21 being charged.

22 Q. (BY MR. POMEROY) The vehicle would be parked,  
23 though; is that correct?

24 MS. RAW: Objection, form.

25 THE WITNESS: I think in general, the

1 claims here apply to the vehicle when it is parked at a  
2 charging station. That's certainly -- certainly I think  
3 how a person of skill in the art would read it.

4 Q. (BY MR. POMEROY) So in Donnelly's alert  
5 system, would an operator receive or see the alert  
6 unless they are sitting in the front looking at the  
7 graphical user interface?

8 A. They would receive -- you're asking me would  
9 they receive it unless they were?

10 Q. Yeah. You know, if they're in the back seat  
11 tending to their kids or something like that, would they  
12 receive the alert?

13 A. If --

14 MS. RAW: Objection, form.

15 THE WITNESS: Sorry.

16 I would say yes. It's obviously incumbent  
17 on them to look at the display in order to receive the  
18 alert. But, I mean, I -- I have an electrical vehicle  
19 and sit in the vehicle while it's being charged and it  
20 tells me when it's done, so that's an example of that.

21 So certainly if you're in -- in the vehicle  
22 you -- the alert will be sent, and I don't know that,  
23 you know, Donnelly doesn't describe a -- a means for  
24 receiving feedback from the user confirming that they  
25 received the alert. But by presenting the alert,

1     it's -- it is being sent to the operator.

2           Q. (BY MR. POMEROY) Claim 1 is there any  
3     difference between sending an alert to an operator or  
4     displaying an alert via the graphical user interface?

5           A. I'm just confirming something here. I am  
6     saying that Donnelly sends by displaying the alert on  
7     the display screen -- I'll just read it. This -- this  
8     is in Paragraph 298 at the end. (Reading:) Thus,  
9     because Donnelly's warning 34007 is displayed to the  
10    "operator," a POSITA would have understood that the  
11    warning is sen[t] to an operator of the vehicle, via the  
12    display screen.

13          Q. That wasn't really the question I asked. The  
14    question is, in the context of Claim 1 in the '338  
15    Patent, is there any difference between sending an alert  
16    to an operator of the electric vehicle or displaying an  
17    alert on the graphical user interface of the electrical  
18    vehicle?

19                   MS. RAW: Objection, form.

20           THE WITNESS: The claim itself explicitly  
21    reads that you send the alert to the operator. I want  
22    to understand one thing. Hang on. The -- the patent  
23    itself doesn't describe that -- it doesn't describe the  
24    means by which the alert is provided, whether that's  
25    graphical or otherwise. So it certainly -- it doesn't

Page 50

1 say that it must be displayed. On the other hand, it  
2 provides for those displays, the display of the alerts  
3 both locally and remotely.

4 But it doesn't say that they're -- for  
5 example, it doesn't require some confirmation step to  
6 make sure that the user actually received the alert,  
7 even though it was sent to the operator. So displaying  
8 it on the display, while not explicitly set forth in the  
9 claim, displaying it on the display is one way of  
10 sending it to the operator.

11 Q. (BY MR. POMEROY) And so displaying this  
12 information or the alerts on the -- the display, in your  
13 opinion, meets the limitation of sending an alert to an  
14 operator, regardless of the whereabouts of said  
15 operator?

16 A. Well, I think we've been over this. The patent  
17 says that you send these alerts to the operator or other  
18 designated parties. So the alerts can be both local and  
19 remote. And, you know, let's just look at the remote  
20 case for a minute. Let's suppose we're using the  
21 smartphone of Claim 5 and I send the alert to the  
22 operator's smartphone. I -- within the description of  
23 the patent, not any of the art, just the patent, there's  
24 nothing in the patent that -- that requires that the  
25 system confirm that the operator looked at his phone.

1                   So it's implicit that by sending it to the  
2 operator, you are sending it to an interface that the  
3 operator -- where the operator can receive it. There's  
4 no -- there's no requirement that the operator actually,  
5 you know cognitively, you know, sees the warning and  
6 understands it.

7                   So I -- I -- I think that a person of skill  
8 in the art reading this claim would -- would understand  
9 that sending the alert is -- the limitation of sending  
10 the alert does not necessarily require that the operator  
11 is -- is made aware of the alert or understands the  
12 alert or reacts to the alert. There's no provision in  
13 the patent. There's no description in the patent of  
14 anything like that. So I think I stand by what I said;  
15 displaying it on the GUI is one way of sending it to the  
16 operator, and there can be other ways.

17               Q. I want to ask a couple questions on the Oyobe  
18 kind of combination.

19               THE REPORTER: Can you repeat that? You  
20 were muffled.

21               Q. (BY MR. POMEROY) I was just saying I want to  
22 ask a couple questions on the Oyobe combination?

23               A. Okay.

24               Q. Do you rely on Oyobe for the vehicle sensor  
25 receiving the -- or indicating the presence of a

1 vehicle; is that correct?

2 A. That's correct.

3 Q. You would agree that Ferro, by itself, does not  
4 teach all the limitations of the vehicle sensor as  
5 claims for Claim 1 of the '338 Patent?

6 A. So Ferro doesn't describe -- Ferro describes  
7 the -- the transactions that occur any time the vehicle  
8 is parked at a charging station, but it doesn't describe  
9 how that would be determined, how -- how the system  
10 would determine that the vehicle was parked there, and  
11 Oyobe does. He describes a sensor for that.

12 Q. Does Ferro teach vehicle sensors?

13 A. Just in general?

14 Q. Uh-huh?

15 A. No, I don't believe so.

16 Q. Does Ferro teach an ability for completing  
17 electric vehicle to communicate with the electrical  
18 charging station?

19 A. Let me go back to Ferro again. He does provide  
20 a mechanism for that communication.

21 Q. How does that communication occur?

22 MS. RAW: Objection, form.

23 THE WITNESS: Through, as I understand it,  
24 if you look at Figure 1 of Ferro, the vehicle is in  
25 communication with the network, 102. And the

Page 53

1 charging -- charging station is in communication with  
2 the network 102. And so that certainly is one route  
3 that the vehicle could be in communication with the  
4 charging station. The charging station is -- the  
5 vehicle is also connected to the charging station,  
6 obviously for the purpose of charging, which could be  
7 another route.

8 Q. (BY MR. POMEROY) How would the vehicle and the  
9 charging station know that they're able to communicate  
10 without some type of sensor indicating this action's  
11 able to take place?

12 A. They -- they would need some type of sensor.  
13 That -- what exactly that sensor would be is not  
14 described by Ferro. But, you know, you can imagine that  
15 if the vehicle is plugged in physically, then there are  
16 sensors that detect that the vehicle is connected, and  
17 if instead, it's wirelessly charging, there would be  
18 sensors that would indicate that -- that the vehicle was  
19 in contact with the wireless portion of that.

20 So Ferro describes his entire operation as  
21 occurring when the vehicle is located at a charger. He  
22 just doesn't explicitly describe the sensors that would  
23 be used to -- to -- to determine that. But he certainly  
24 describes the operations that -- the operations in --  
25 in -- that are described in detail in Ferro are carried

1 out when the vehicle is located at a charging station.

2 So specifically, he -- he doesn't describe  
3 how that is determined, and doesn't describe sensors  
4 that would determine that. But a person of skill in the  
5 art that in order to carry out Ferro, Ferro's  
6 operations, the -- you would need to understand that it  
7 was at a -- at a charging station. And to do that,  
8 there would be some sort of sensor, and so you would  
9 obviously go look for that kind of a sensor.

10 Q. What does the Oyobe vehicle sensor indicate to  
11 a user?

12 A. The Oyobe sensor, vehicle sensor 108 doesn't  
13 indicate anything to a user.

14 Q. What does it indicate to a charge station?

15 A. It indicates -- it -- it detects when a vehicle  
16 is located at charging equipment or charging station.  
17 That's what the sensor does. What you -- what Oyobe  
18 does with that is kind of immaterial, what he does with  
19 the result. The fact is if the sensor says I'm at a  
20 charging station, and that's -- that's the piece of  
21 information that needs to be conveyed to Ferro. The  
22 fact that Oyobe play do other things with it, that's  
23 fine. He can do whatever he wants with it.

24 Q. Oyobe says that the vehicle is at a charging  
25 station. Does it give any information that the

1 vehicle's, you know, where it's currently located, in a  
2 position to be charged?

3 MS. RAW: Objection, form.

4 THE WITNESS: Oyobe describes that the  
5 vehicle is parked at a location where charging equipment  
6 is installed. So I don't know if that answers your  
7 question, but that's what Oyobe describes.

8 Q. (BY MR. POMEROY) Is there anything in Oyobe  
9 that would -- in the system that would let a charging  
10 station or any part of the system know the vehicle is  
11 now in position for charging to occur?

12 A. To let the charging station know?

13 Q. Yeah, the charging station or -- or the  
14 electrical charging system in general?

15 A. Oyobe's control apparatus 60B receives the  
16 indication from the sensor that the vehicle is located  
17 at this charging location. And Oyobe does inform the  
18 other portions of the vehicle, including this indicator  
19 102. But if you look at Figure 16, the control  
20 apparatus 60B is also connected to the mode of power  
21 apparatus, and that's connected to the battery and all  
22 that other business.

23 So the sensor in Oyobe is not described as  
24 communicated directly with the charging station or  
25 necessarily with the charging system in the vehicle.

Page 56

1 But it is -- it is shown in Oyobe that the charging --  
2 the -- the entire system in the vehicle is in  
3 communication with this control apparatus 60B and  
4 would -- would be -- would have the access to this  
5 indication or this -- this signal that the vehicle was  
6 located at a charging station.

7 Q. Part of your motivation to combine Oyobe with  
8 Ferro is so that the user doesn't have to leave the  
9 vehicle; is that correct?

10 A. Let me double-check. I believe that's -- I'm  
11 just reviewing my declaration and the motivation to  
12 combine. Yes, in Paragraph 151, I say, (Reading:) A  
13 POSITA would have been motivated to apply Oyobe's  
14 wireless interrogation via apparatus 108 to detect the  
15 vehicle is parked at the charging station to  
16 advantageously allow a user to charge without having to  
17 exit the vehicle and without having to manually interact  
18 with the external charging station.

19 Q. So what in Oyobe's sensor lets a user know that  
20 the vehicle is ready and in the exact position to where  
21 it can be charged so it doesn't -- so that user doesn't  
22 have to leave the vehicle?

23 MS. RAW: Objection, form.

24 THE WITNESS: Oyobe's sensor determines the  
25 location of the vehicle and determines that it is

1 located at a charging station. And at that point Ferro  
2 takes over, and based on the charging schedule and --  
3 and preferences, takes over the -- charging the vehicle.  
4 So the -- the user's involvement is -- is kind of not  
5 really required. So you're asking how does Ferro's  
6 sensor inform the user that they're at a -- at the  
7 location?

8 Q. (BY MR. POMEROY) Yeah. Because isn't it fair  
9 that just being at a charging station does not  
10 necessarily put the electric vehicle in a position to be  
11 charged?

12 A. No, I disagree with that. It depends entirely  
13 on the kind of charging. Obviously, if you -- I mean,  
14 that's one of the purposes of wireless charging, you  
15 know, wireless inductive charging, is that you don't  
16 have to be, you know, located with precision of  
17 millimeters so that, you know, something can be plugged  
18 in. And so there's no -- there's no precision -- well,  
19 first of all, there's no precisions described in -- in  
20 the patent.

21 But the whole concept of wireless charging  
22 is that you need to be parked at the charging station,  
23 but you can be parked in -- you know, at the charging  
24 station within a fairly large physical tolerance, and it  
25 will still charge. It's not like you're, you know,

1     trying to dock the car with a connector at the parking  
2     place, which would obviously require a lot more  
3     precision in terms of the actual location of the  
4     vehicle.

5           Q.   I'm going to shift gears a little bit back to  
6     this -- a little bit more on the charge just in general  
7     kind of questions. We talked a lot about amount charged  
8     earlier. Is amount of charge equivalent to state of  
9     charge?

10          A.   I think you could say that they are equivalent.  
11     Again, depending on how you have specified the units for  
12     amount, and in this case, how you have specified the  
13     units for state, they certainly can be equivalent.

14          Q.   We talked about the unit for measure of charge,  
15     coulombs, joules, however we want to do it. Is it fair  
16     to say an example unit of distance is miles?

17          A.   Sure, miles, kilometers, whatever.

18          Q.   As a POSITA, can you directly convert miles  
19     into charge?

20          A.   For a given battery system, yes. But, I mean,  
21     there's -- miles are -- are measures of distance. But  
22     in the context of an electric vehicle, if I'm going  
23     display the available range of the vehicle in miles,  
24     that is equivalent to the amount of charge in the  
25     battery because they're directly related.

1           Q. You'd agree that -- let's say -- let's just go  
2 with a hypothetical vehicle, 200 -- 200 mile capacity,  
3 you would agree that, in some instances, that vehicle,  
4 depending on conditions outside, terrain, and other  
5 factors, that that vehicle may not always go 200 miles  
6 on a full charge?

7                       MS. RAW: Objection, form.

8           THE WITNESS: There may be factors that --  
9 that cause variation -- minor variations in the actual  
10 distance.

11           Q. (BY MR. POMEROY) Based on your experience as  
12 an expert, would an electric vehicle -- if I gave an  
13 electric vehicle -- strike that.

14                       Based on your experience as an expert, when  
15 an electric vehicle with the radio on and full blast of  
16 the A/C driving in 100 degree temperature uphill on a  
17 mountain be able to go the exact same distance as an  
18 electric vehicle driving in cool climate, no accessories  
19 on, driving on flat terrain?

20           A. That's a very elaborate hypothetical, isn't it?

21                       The -- the range as well as the measure of,  
22 like, the absolute measure of the battery charge will  
23 depend on a lot of factors. And there are going to be  
24 variations in that. You -- you know, the -- the fact  
25 is that -- that's -- there's no good way-- a person of

Page 60

1 skill in the art would understand there's no good way to  
2 know exactly how many kilowatt-hours are in a given  
3 battery at any given time. And the effectiveness of  
4 those may change depending on conditions.

5 If the battery is cold, then it may not be  
6 able to deliver as many kilowatt-hours as if it's warm.  
7 So, you know, that -- in all of these situations, there  
8 are going to be variations. And just like you -- your  
9 hypothetical, you know, if the vehicle is driving  
10 over -- driving in conditions that consume significantly  
11 more power per mile, then your initial estimate of that  
12 range will go down.

13 Most of these systems, just as a matter of  
14 course, dynamically adjust that. So when you put your  
15 air conditioner, on the range goes on, I mean, the  
16 actual indicated range goes down. But that's pretty far  
17 afield of this patent.

18 Q. It's fair to say if -- if you were to select,  
19 you know, a range level via a slider, that's just an  
20 estimate, right, it's an estimated range?

21 MS. RAW: Objection, form.

22 THE WITNESS: Well, it might be a direct  
23 calculation as opposed to an estimation. But the  
24 percentage is also an estimation. So they're -- they're  
25 both -- they're both being estimated off the same

1 measure. And there will be errors in that, or -- or  
2 it -- it may be subject to other external effects that  
3 may cause the exact number to be incorrect. In most  
4 cases, though, I mean, the amount that -- of  
5 incorrectness is very small.

6 Q. (BY MR. POMEROY) Is there any way to directly  
7 know if I gave you -- if I told you there are 70 miles  
8 left in a vehicle, is there any way to know how many  
9 kilowatt-hours are left in the battery?

10 A. If I knew the -- the characteristics of the  
11 particular electrical system, I could calculate what the  
12 expected range or -- excuse me, what the expected level  
13 of charge or amount of charge would be in that battery.

14 Q. What characteristics would you need to know?

15 A. You'd need to know the -- the load and  
16 efficiency of the motor and the overall efficiency of  
17 the system in order to do that calculation. But  
18 that's -- a -- a person of skill in the art would expect  
19 that to be built into the translation between, you know,  
20 level of charge and miles. Depends on the particular  
21 vehicle.

22 Q. Do you need to know the -- the battery's  
23 capacity?

24 A. The total capacity of the battery to -- in  
25 order to determine what?

1           Q. To do a conversion between kilowatt-hours to  
2 miles.

3           A. Not necessarily.

4           Q. Why not?

5           A. Are you talking about miles of range, or are  
6 you talking about --

7           Q. Yeah, miles. My apologies. Miles of range?

8           A. Oh, okay. That's different. Because, you  
9 know, kilowatts per mile traveled is a common measure in  
10 these systems. And then if you know the total capacity  
11 of the battery, then you can determine the total range  
12 of the vehicle based on those kilowatt-hours per mile or  
13 miles per kilowatt-hour.

14          Q. Would there be no way to, you know, do a direct  
15 conversion for, you know, a range amount to  
16 kilowatt-hours without the -- knowing the battery  
17 capacity?

18          A. Well, I mean, I could tell you without knowing  
19 the battery capacity, but knowing the -- electrical  
20 characteristics, electromechanical characteristics of  
21 the power train, I could tell you how many  
22 kilowatt-hours you would consume to go a mile. But tell  
23 you the entire -- so that's a range. To tell you -- to  
24 tell you the maximum range of the vehicle, I would need  
25 to know the capacity of the battery.

Page 63

1           Q. So looking back at the vehicle charge indicator  
2 element, there's three portions, we talked about that.  
3 For portions one and two, which is the, you know, charge  
4 and the uncharge portion of the battery, you rely on  
5 Donnelly for that, correct?

6           A. Yes.

7           Q. How does Donnelly determine the amount of  
8 charge?

9           A. How does Donnelly determine the amount of  
10 charge? I -- I'll have to go look at Donnelly. I don't  
11 rely on Donnelly's electronic system for determining the  
12 amount of charge. But I can certainly go look.

13          Q. Is it -- is it fair to say that you're really  
14 just relying on that picture of the bar graph?

15          A. I'm relying on Donnelly's description of his  
16 graphical user interface, which includes a display  
17 of -- of the -- gosh, I'm losing it. Here we go.  
18 Includes a display of the amount of charge in the  
19 battery. I'm not relying on the mechanism by which the  
20 amount -- the -- the display or the system that's  
21 driving that display ascertains that level of charge.

22          Q. All right. Does Donnelly determine an amount  
23 of charge based on range?

24          A. Let me go look.

25                   MS. RAW: Objection, form.

1 THE WITNESS: So what was your question  
2 again? Just -- it's been a minute. I want to make sure  
3 I'm answering it correct.

4 Q. (BY MR. POMEROY) Does Donnelly determine an  
5 amount of charge using range?

6 A. He actually describes that somewhat in the  
7 bottom of Column 8, line 60 and I'll just go ahead and  
8 read this and it goes over into Column 9. (Reading:) A  
9 new method of setting the upper and lower set points of  
10 determining that define the operational range of the  
11 energy storage unit is disclosed.

12 And then he goes on to -- I won't read the  
13 whole thing, but he goes on to describe this whole  
14 process of measuring voltage and things.

15 So the operational range here, you know,  
16 you could construe that as the range of the locomotive  
17 with the existing state of charge, which is how I think  
18 he is describing it. Or you could just say it's the  
19 range of, essentially, the -- the useable range of the  
20 battery itself. But that's certainly one description  
21 that he provides, and he describes how it is determined  
22 through a process of measuring voltages and various  
23 things within the battery.

24 Q. Okay. I want to go to look at the figure that  
25 you rely on. It's Figure --

1 A. This is Donnelly?

2 Q. Yeah.

3 A. What was the figure number again?

4 Q. I think it's 28. Yeah?

5 A. He's got a whole bunch of them in here, so.

6 Q. So we have this charged kind of graph in the  
7 middle, I think it's labeled 28004, you know, kind of  
8 pictures of -- looks like, kind of like, let's say --  
9 you know, I'm not trying to tie anybody. But I think  
10 they're saying 7 to 10 percent. I'm just kind of  
11 guessing, but that looks like that based off...

12 A. Yeah, looks roughly that. You're talking about  
13 the vertical white lines in the --

14 Q. Yeah. So this is what you rely on for the  
15 first and second -- along with, you know, the disclosure  
16 of Donnelly, but this picture is part of what you relied  
17 on for the first and second element -- or portions of  
18 the vehicle charge indicator element, right?

19 A. Yeah. Let me go back to the -- I want to go  
20 back to my declaration as opposed to Donnelly because  
21 it's annotated here. So this is the -- this is 1[h], I  
22 believe.

23 Q. I think it's on your declaration around 225 at  
24 the bottom?

25 A. Okay. I'm there.

Page 66

1           Q. So just -- you know, so you rely on this for  
2     the -- at least a portion of the vehicle charge  
3     indicator element, the first and second portion.  
4     Looking at that picture, is -- is that portion that  
5     displays charge, that 28004, is that interactive in any  
6     way?

7           A. In -- in Donnelly's example?

8           Q. Yeah?

9           A. No.

10          Q. So I can't -- a user can't, you know, press on  
11     it or use a mouse or however, you know -- however --  
12     there's no way for a user to interact with that display?

13                     MS. RAW: Objection, form.

14                     THE WITNESS: Well, they can certainly look  
15     at the display and get information from it. Not clear  
16     from me -- give me one second here. So Donnelly  
17     describes this at Column 21 of Donnelly around line 47,  
18     (Reading:) As will be appreciated, the control system  
19     for the various components of the locomotive requires a  
20     Graphical User Interface display ("GUI") to provide a  
21     user interface for viewing the various monitored  
22     parameters and the operational states of the various  
23     components and providing operational commands to the  
24     various components. This GUI is preferably implemented  
25     using a series of related display screens which are

Page 67

1 configured to receive touch screen commands.

2 So Donnelly's description of his screen is  
3 that it's a touchscreen. And so if you go back to  
4 Figure 28, you know, I'm -- I'm not sure if I can  
5 identify in Figure 28 which elements on that display  
6 could be touched and therefore interacted with. But  
7 some of them can since it's a touchscreen.

8 Q. (BY MR. POMEROY) Is there any way to change or  
9 do anything with the bar graph that you rely on for the  
10 vehicle charge indicator element?

11 A. Donnelly doesn't describe that that's an  
12 element that you can touch and do something with.

13 Q. And is it fair to say that this scale or bar  
14 graph is kind of linear, so if it's, you know, halfway  
15 full, the charge level would be 50 percent?

16 A. There's nothing in Donnelly that describes what  
17 kind of display that is. Certainly, you know, it -- it  
18 might be linear. But he doesn't say one way or the  
19 other.

20 Q. Okay. So if it doesn't say, could you provide  
21 any estimate of the amount of charge based on that  
22 graph?

23 A. You could if you -- well, it could be a  
24 nonlinear display and it could be linear. In general,  
25 it is -- if you're going to interpret it only by the

1 graphics, you -- a person of skill in the art would  
2 assume that it would be a reasonably linear display.  
3 Doesn't have to be -- it's not expected to be exact.

4 Q. Okay. So based on your knowledge as a person  
5 of ordinary skill in the art, you would assume the  
6 charge state displayed in Figure 28 to be over  
7 50 percent; is that correct?

8 A. That's a -- that's a good question. I've --  
9 I've looked at this graphic and seen it described both  
10 directions. Whether the white means the level of charge  
11 and the black is the empty display or whether the black  
12 means the level of charge and the display is white. I'm  
13 not sure, and I'd have to go dig into Connelly -- or  
14 Donnelly to -- to find out which he means. I believe  
15 the interpretation that -- that has been used is that  
16 the black bars represent the level of charge.

17 Q. Okay. And if assuming the black bars represent  
18 the level of charge, could you provide an estimated  
19 amount of charge left in the battery presented in this  
20 figure?

21 A. Yeah. You could look at it and say that  
22 there's, you know, somewhere around two-thirds to  
23 three-quarters, little more like two-thirds.

24 Q. Let's say Donnelly is at 50 percent charge.  
25 How much range would be left in the system?

1 MS. RAW: Objection, form.

2 THE WITNESS: It would effectively be  
3 50 percent of the total range of the system.

4 Q. (BY MR. POMEROY) With -- without knowing the  
5 range of the system, you would have no way to know how  
6 many miles the Donnelly system can go on 50 percent  
7 charge, correct?

8 A. Well, you would need to -- yeah, you would need  
9 to know the range of the system to know what 50 percent  
10 meant. But, I mean the 1 -- the '338 Patent describes  
11 that you can describe that in terms of percentage, you  
12 can describe it in not only just percent of range, but  
13 literally in terms of actual miles. In this particular  
14 instance, Donnelly just describes it as a -- as a number  
15 of bars without any units.

16 Q. Let's go to the Letendre. And I just want to  
17 talk a little bit about the figure. You can use the  
18 declaration or figure in the -- I don't really --

19 A. I'm at 242 at the figure, highlighted figure.

20 Q. That's fine by me. Okay. All right. So you  
21 rely on Letendre solely for the slider by which an  
22 amount of charge can be specified; is that correct?

23 A. I -- I rely on the slider shown -- or I should  
24 say sliders shown in Letendre.

25 Q. What is Letendre about?

Page 70

1 MS. RAW: Objection, form.

2 THE WITNESS: So he -- he is trying to --  
3 it's a fairly complicated system that can both  
4 accumulate charge and sell charge, so -- and this is a  
5 common idea among some EV folks that, you know, you can  
6 basically use your EV as an -- as an electrical storage  
7 system. And so you -- in Letendre's system, you have  
8 two sliders. One of them allows you to put a lower  
9 bound on how much you are -- it's the one on the far  
10 left, put a lower bound on how much you are willing  
11 to -- or a threshold below which you will not sell any  
12 more energy. So you won't discharge the -- the battery  
13 by more than some set amount so that you can then use  
14 your car, even though you've been decharging it for  
15 whatever purpose.

16 And then the other slider is really setting  
17 on the charging side saying I -- I want to have at least  
18 this much charge or at least this much range and the  
19 system will then charge the -- when it's charging, it  
20 will charge, at a minimum, that much. You know,  
21 obviously, might charge more, but it will -- it will,  
22 for the time that -- that you are charging it, given the  
23 capacity of the charger, it will seek to provide at  
24 least the number of specified miles.

25 Q. (BY MR. POMEROY) And I see it goes from one

Page 71

1 mile, two miles, 10 miles, 50 to 100 for both scales.  
2 You agree that this is not a directly linear scale,  
3 correct?

4 A. It -- I think it's representative of a scale.  
5 I don't think there's any attempt to -- to be  
6 mathematically explicit about it. And, you know, in  
7 this particular case, Letendre chooses to have it scaled  
8 in this particular fashion.

9 Q. So if I go halfway up, you know, the scales  
10 presented in Letendre, I'm not at 50 miles, am I?

11 A. The way it's drawn, you'd be somewhere between  
12 10 miles and 50 miles.

13 Q. Okay.

14 A. I think it's important to point out that, you  
15 know, I'm not suggesting you would take this scale and  
16 superimpose it on Donnelly's graph. The -- the -- the  
17 teaching of Letendre is the teaching of having a sliding  
18 scale to indicate a level of charge. And how you would  
19 implement that just is -- wouldn't be based on the scale  
20 that you're going to use for your display.

21 So, you know, a -- a person using the  
22 display of Donnelly would put a slider on Donnelly as  
23 taught by Letendre and would -- would -- would set the  
24 scale accordingly so that there was a correspondence  
25 between Donnelly's display and the slider -- position of

1 the slider. Just as easily, somebody could say, well,  
2 I'm going to -- I'm going to, you know, bodily  
3 incorporate Letendre into Donnelly, which would mean I  
4 would then need to modify Donnelly's display so that it  
5 had whatever the scale that Letendre had. That's an --  
6 an implementation question that's way below the level of  
7 teaching to use a slider.

8 Q. So I'm just trying to really understand. Are  
9 you -- are we taking the -- the distance scale or slider  
10 in Letendre and applying that to the battery of  
11 Donnelly, or are we modifying -- or are you modifying  
12 Letendre to represent the scale in a non-distance manner  
13 when combined with Donnelly?

14 A. I'm --

15 MS. RAW: Objection, form.

16 THE WITNESS: Sorry. Did you get your  
17 objection in?

18 MS. RAW: Objection, form.

19 THE WITNESS: So I'm teaching -- I'm taking  
20 Letendre's teaching of using a slider to indicate an  
21 amount of charge and applying that teaching to Donnelly.  
22 So there's no -- there's no -- it's not really a -- a  
23 modification of Letendre, because I'm not suggesting  
24 that you would, you know, somehow cut and paste  
25 Letendre, and -- you know, cut Letendre and paste it

1 over Donnelly. That's well understood as, you know,  
2 a -- I guess in the legal world as a bodily  
3 incorporation.

4           You know, here, the person of skill in the  
5 art would learn from Letendre that there is a concept of  
6 a slider that indicates the desired -- the objective  
7 level of charge as represented either by actual, you  
8 know, coulombs or by miles or percentages, percent of  
9 total range, and would apply that teaching to Donnelly.  
10 So there's -- you know, there's no modification of  
11 Letendre implied. There's really taking Letendre's  
12 concept and implementing that concept in the GUI of  
13 Donnelly.

14           Q. (BY MR. POMEROY) And would you agree that  
15 there's no way, you know, using just the scale in  
16 Letendre to know how to -- if I wanted to set 60 percent  
17 charge level, there's no way given that slider to know  
18 how to do that, correct?

19           A. In Letendre's system?

20           Q. Yeah.

21           A. Letendre doesn't really provide a -- a very  
22 complete or -- a very complete description here. He's  
23 got on his display that -- that there's -- the system is  
24 charged enough for 206 -- I can't read it, 20.6 miles.  
25 So I -- I guess the answer would be yes. Given

1 Letendre's example here on his figure, there is nothing  
2 that -- there is not enough information to determine how  
3 to set the charging level to 60 percent.

4 Q. Is there anything here that would allow a user  
5 to know the charge level in a battery at any given time?

6 A. It -- as charge is -- charge level is described  
7 in the '338 Patent, sure, the -- the display on the far  
8 right.

9 Q. Charge -- meaning a percentage of the overall  
10 battery capacity?

11 A. So you're now limiting the -- the definition of  
12 charge level to only one of the two that are described  
13 in the '338 Patent?

14 Q. I'm just asking that giving the definition I  
15 gave. That's all I'm asking?

16 A. From Letendre's display as it's shown in this  
17 figure, he does not provide enough information about the  
18 system to determine what -- determine or to set a  
19 percentage of total charge or total range.

20 Q. Now, I recognize Letendre describes both the  
21 physical and a -- a web page. Would you agree that, at  
22 least given this figure and kind of the indentations,  
23 this was likely a physical description?

24 MS. RAW: Objection, form.

25 THE WITNESS: It -- it could be. It also

Page 75

1 could be just a -- a graphical display. The -- the --  
2 the teaching of Letendre is the same either way, right?

3 Q. (BY MR. POMEROY) If we combine Donnelly with  
4 Letendre, or you combine it with, you know, in your  
5 declaration, what problem is solved by combining these  
6 two references?

7 MS. RAW: Objection, form.

8 THE WITNESS: The -- the -- the problem it  
9 solves is that Ferro describes a maximum level and a  
10 minimum level. And he describes that those are set  
11 through inputs. But he doesn't describe how that input  
12 is obtained. So how -- how are these maximum and  
13 minimum levels actually provided by or set by the user.  
14 And Letendre does. Letendre very clearly and, you know,  
15 in hindsight I wish I had highlighted the left-hand side  
16 together with the right-hand slider, because the left  
17 hand one is the minimum. It's equivalent to Ferro's  
18 minimum.

19 And the right-hand side is equivalent to,  
20 and it's a very strange way of saying it, but the  
21 minimum level of maximum charge that -- that a person  
22 implementing Ferro would want to set. So Ferro sets a  
23 maximum, and what that maximum really means -- obviously  
24 the maximum maximum is to fill the entire battery,  
25 right.

Page 76

1                   But if you're setting another maximum,  
2     you're saying this is the minimum amount I want to have  
3     in this -- in this battery when it's charged, and if you  
4     can charge more, that would be great, but it -- you have  
5     to have at least this much. And so these two sliders  
6     represent exactly the -- the kind of input that is not  
7     described -- or a mechanism for providing the input that  
8     is described by Ferro.

9                   So that's the problem that is solved is  
10    that Ferro describes wanting to set a maximum and a  
11    minimum, and he says that those are set by some input,  
12    but he doesn't define what the input is, and here  
13    Letendre provides us with a very explicit teaching of  
14    how to set a maximum and a minimum.

15           Q. (BY MR. POMEROY) Is there a motivation to add  
16    Letendre to Donnelly separate and apart from Ferro?

17                   MS. RAW: Objection, form.

18                   THE WITNESS: Well, no, I haven't really  
19    provided a -- a separate combination of Letendre and  
20    Donnelly. In fact, I'm saying that -- that Letendre  
21    teaches a solution to what's missing in Ferro. And,  
22    you -- you know, that -- that would be relevant and  
23    applicable regardless of whether you had Donnelly  
24    present or not.

25           Q. (BY MR. POMEROY) Similar to that, do you

1 provide any specific motivations in your declaration to  
2 combine Oyobe with Donnelly?

3 A. No, it's the same answer. Oyobe solves a  
4 problem for Ferro.

5 Q. What about combining Oyobe with Galvez-Ramos?

6 A. I don't -- I don't provide a -- an argument  
7 that illustrates why in isolation one would attach  
8 Oyobe's, you know, or use Oyobe's concept of a -- of a  
9 vehicle sensor in Galvez-Ramos. It's -- it's -- it's --  
10 you know, the two are -- are as unrelated as the  
11 elements of Claim 1 are. Deal with pets and  
12 temperatures and -- and whatever. I mean, the claim is,  
13 frankly, kind of a hot mess. It's got a bunch of things  
14 that are unrelated to one another. Some things that are  
15 related and a bunch of things that are unrelated.

16 And you're asking me if I would combine a  
17 reference that addresses -- that -- that is related to  
18 one portion of the claim to some portion of the claim  
19 that has no -- no relation other than being in the  
20 claim. And the answer is no, I wouldn't do that.

21 MR. POMEROY: I -- I think I'm about done.  
22 I just need to check my notes. Can we do, like, a  
23 ten-minute break?

24 MS. RAW: Yeah.

25 (Brief recess.)

1 MR. POMEROY: Mr. Andrews, I -- I thank you  
2 for your time today and answering all my questions. I  
3 pass the witness.

4 THE WITNESS: Thank you.

5 EXAMINATION

6 Q. (BY MS. RAW) Mr. Andrews, do you remember  
7 earlier today when we were talking about what vehicle  
8 sensors are described in Ferro?

9 A. Yes.

10 Q. Can you please turn to Paragraph 146 of your  
11 declaration?

12 A. Okay.

13 Q. Do you recall a line of questions generally  
14 about how in -- in Ferro, the vehicle would know to  
15 begin charging?

16 A. Yes.

17 Q. Can you please review Paragraph 146 to your  
18 declaration and let know if that refreshes your  
19 recollection of -- of how that process works in Ferro?

20 A. You know, it looks -- I -- I actually mention  
21 this. I -- if not at that point in the declaration --  
22 deposition, at another point that plugging in is  
23 actually, you know, physically connecting would include  
24 having some kind of a sensor to indicate that you had  
25 actually physically made that connection.

Page 79

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

MS. RAW: No further questions.  
MR. POMEROY: Nothing further from me.  
(Deposition concluded.)

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

REPORTER'S CERTIFICATION  
DEPOSITION OF SCOTT ANDREWS

TAKEN AUGUST 21, 2025

I, Janalyn Elkins, Certified Shorthand  
Reporter in and for the State of Texas, hereby certify  
to the following:

That the witness, SCOTT ANDREWS, was duly  
sworn by the officer and that the transcript of the oral  
deposition is a true record of the testimony given by  
the witness;

That the original deposition was delivered to  
MICHAEL C. POMEROY;

That a copy of this certificate was served on  
all parties and/or the witness shown herein on  
\_\_\_\_\_.

I further certify that pursuant to FRCP No.  
30(f)(i) that the signature of the deponent was not  
requested by the deponent or a party before the  
completion of the deposition.

I further certify that I am neither counsel  
for, related to, nor employed by any of the parties in  
the action in which this proceeding was taken, and  
further that I am not financially or otherwise

1 interested in the outcome of the action.

2 Certified to by me this 21st day of August  
3 2025.

4 

5 JANALYN ELKINS

6 Texas CSR 3631

7 Expiration Date 1/31/2027

8 Veritext Legal Solutions

300 Throckmorton Street, Suite 1600

Fort Worth, Texas 76102

Firm Registration No. 571

9 PH: (817) 336-3042

1 Tesla, Inc. v. Charge Fusion Technologies, LLC  
2 Scott Andrews Job No. 7536745  
3 E R R A T A S H E E T  
4 PAGE\_\_\_\_\_ LINE\_\_\_\_\_ CHANGE\_\_\_\_\_  
5 \_\_\_\_\_  
6 REASON\_\_\_\_\_  
7 PAGE\_\_\_\_\_ LINE\_\_\_\_\_ CHANGE\_\_\_\_\_  
8 \_\_\_\_\_  
9 REASON\_\_\_\_\_  
10 PAGE\_\_\_\_\_ LINE\_\_\_\_\_ CHANGE\_\_\_\_\_  
11 \_\_\_\_\_  
12 REASON\_\_\_\_\_  
13 PAGE\_\_\_\_\_ LINE\_\_\_\_\_ CHANGE\_\_\_\_\_  
14 \_\_\_\_\_  
15 REASON\_\_\_\_\_  
16 PAGE\_\_\_\_\_ LINE\_\_\_\_\_ CHANGE\_\_\_\_\_  
17 \_\_\_\_\_  
18 REASON\_\_\_\_\_  
19 PAGE\_\_\_\_\_ LINE\_\_\_\_\_ CHANGE\_\_\_\_\_  
20 \_\_\_\_\_  
21 REASON\_\_\_\_\_  
22 \_\_\_\_\_  
23 \_\_\_\_\_  
24 Scott Andrews Date  
25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

Tesla, Inc. v. Charge Fusion Technologies, LLC  
Scott Andrews 7536745

ACKNOWLEDGEMENT OF DEPONENT

I, Scott Andrews, do hereby declare that I  
have read the foregoing transcript, I have made any  
corrections, additions, or changes I deemed necessary as  
noted above to be appended hereto, and that the same is  
a true, correct and complete transcript of the testimony  
given by me.

\_\_\_\_\_  
Scott Andrews

\_\_\_\_\_  
Date

\*If notary is required

SUBSCRIBED AND SWORN TO BEFORE ME THIS  
\_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

|                       |                        |                       |                       |
|-----------------------|------------------------|-----------------------|-----------------------|
| <b>1</b>              | <b>11,563,338</b> 1:4  | <b>214</b> 2:9        | <b>3631</b> 82:6      |
| <b>1</b> 3:11 6:8,9   | <b>11:00</b> 1:13      | <b>21st</b> 82:2      | <b>4</b>              |
| 9:24 10:6,8           | <b>12798</b> 82:5      | <b>225</b> 66:23      | <b>4</b> 3:4,6        |
| 11:7,18 12:1          | <b>12:20</b> 40:9      | <b>242</b> 70:19      | <b>462-3000</b> 2:9   |
| 12:12,23,25           | <b>146</b> 79:10,17    | <b>28</b> 66:4 68:4,5 | <b>47</b> 67:17       |
| 13:17 22:5,15         | <b>15</b> 9:4 22:14    | 69:6                  | <b>5</b>              |
| 30:18,19 34:5         | 24:25 26:14            | <b>28004</b> 66:7     | <b>5</b> 47:7,20 48:7 |
| 34:14 35:5            | 28:24                  | 67:5                  | 51:21                 |
| 36:9,16,25            | <b>151</b> 57:12       | <b>292</b> 45:8,12    | <b>50</b> 8:4 68:15   |
| 37:1,5,6,8 38:5       | <b>16</b> 56:19        | <b>295</b> 45:17      | 69:7,24 70:3,6        |
| 38:23 39:4            | <b>1600</b> 82:7       | <b>298</b> 45:22 50:8 | 70:9 72:1,10          |
| 40:14,16 41:10        | <b>17</b> 10:5         | <b>3</b>              | 72:12                 |
| 41:14 42:22           | <b>1717</b> 2:8        | <b>30</b> 81:16       | <b>571</b> 82:8       |
| 43:11,15,17,19        | <b>1980s</b> 18:19     | <b>300</b> 82:7       | <b>6</b>              |
| 44:17 46:24           | <b>1992</b> 21:10      | <b>31</b> 3:11        | <b>6</b> 3:11 25:3    |
| 48:6,14 50:2          | <b>1j</b> 36:19        | <b>3100</b> 2:8       | <b>60</b> 65:7 74:16  |
| 50:14 53:5,24         | <b>2</b>               | <b>336-3042</b> 82:9  | 75:3                  |
| 66:21 70:10           | <b>2</b> 3:3,11 31:5   | <b>338</b> 9:24 11:19 | <b>60b</b> 56:15,20   |
| 78:11                 | <b>20</b> 19:11 84:15  | 12:1,17,23            | 57:3                  |
| <b>1/31/2027</b> 82:6 | <b>20.6</b> 74:24      | 17:24 18:14           | <b>66211</b> 2:4      |
| <b>10</b> 9:4 20:25   | <b>200</b> 60:2,2,5    | 22:10,12,14           | <b>7</b>              |
| 66:10 72:1,12         | <b>2003</b> 20:5       | 24:6,7 25:20          | <b>7</b> 23:6,7 25:3  |
| <b>100</b> 23:23      | <b>2009</b> 18:21      | 25:22,24 26:5         | 66:10                 |
| 26:13 60:16           | 19:3                   | 26:8,11,15,25         | <b>70</b> 8:5 62:7    |
| 72:1                  | <b>2016</b> 8:9        | 27:2,9,23 28:1        | <b>7015</b> 2:4       |
| <b>102</b> 53:25 54:2 | <b>2025</b> 1:8,13     | 28:4,11,14,17         | <b>75201</b> 2:9      |
| 56:19                 | 81:2 82:3              | 28:19 29:9,11         | <b>7536745</b> 83:2   |
| <b>108</b> 55:12      | <b>2025-00032</b> 1:4  | 29:20 38:23           | 84:2                  |
| 57:14                 | <b>206</b> 74:24       | 39:4 43:11            | <b>76102</b> 82:8     |
| <b>10:20</b> 40:9     | <b>21</b> 1:8,13 67:17 | 50:14 53:5            | <b>777-5604</b> 2:5   |
| <b>10th</b> 2:4       | 81:2                   | 70:10 75:7,13         | <b>79</b> 3:6 31:15   |
| <b>11</b> 22:15       | <b>213</b> 46:11,12    | <b>34007</b> 50:9     |                       |

[8 - anybody's]

|                       |                        |                       |                       |
|-----------------------|------------------------|-----------------------|-----------------------|
| <b>8</b>              | <b>action</b> 81:21    | <b>air</b> 61:15      | 29:6,10,21            |
| <b>8</b> 65:7         | 82:1                   | <b>alert</b> 37:10    | 30:1,3,4,9            |
| <b>80</b> 8:9         | <b>action's</b> 54:10  | 38:10,13,13,14        | 31:19,24 32:5         |
| <b>81</b> 3:7         | <b>activated</b> 44:10 | 38:15,16,17,18        | 32:6,12,15,18         |
| <b>817</b> 82:9       | <b>actual</b> 26:19    | 38:20,22,24,25        | 32:21 33:16,20        |
|                       | 59:3 60:9              | 39:5,6,18,20,21       | 33:22 41:6,15         |
| <b>9</b>              | 61:16 70:13            | 39:24 41:21           | 45:2,13,23            |
| <b>9</b> 65:8         | 74:7                   | 44:23 45:25           | 46:2 59:7,8,12        |
| <b>913</b> 2:5        | <b>actually</b> 24:21  | 46:5,17,20            | 59:24 62:4,13         |
| <b>95</b> 8:15        | 26:16 40:6             | 47:12,21,23,24        | 63:15 64:7,9          |
|                       | 45:7 51:6 52:4         | 48:2,8 49:4,5         | 64:12,18,20,22        |
| <b>a</b>              | 65:6 76:13             | 49:12,18,22,25        | 65:5 68:21            |
| <b>a.m.</b> 1:13      | 79:20,23,25            | 49:25 50:3,4,6        | 69:19 70:22           |
| <b>aa</b> 26:3        | <b>adapted</b> 13:23   | 50:15,17,21,24        | 71:13 73:21           |
| <b>ability</b> 53:16  | 14:25                  | 51:6,13,21            | 77:2                  |
| <b>able</b> 7:16 19:2 | <b>add</b> 36:2 77:15  | 52:9,10,11,12         | <b>amounts</b> 27:17  |
| 21:2 54:9,11          | <b>additions</b> 84:6  | 52:12                 | <b>andrews</b> 1:8,10 |
| 60:17 61:6            | <b>addresses</b>       | <b>alerts</b> 51:2,12 | 3:5 4:8,11            |
| <b>above</b> 1:12     | 78:17                  | 51:17,18              | 30:22 31:12           |
| 40:19 84:7            | <b>adjust</b> 61:14    | <b>allow</b> 16:16    | 40:11 79:1,6          |
| <b>absolute</b> 23:25 | <b>adopt</b> 18:5      | 21:19 44:5            | 81:1,6 83:2,24        |
| 33:15 60:22           | <b>advance</b> 40:22   | 57:16 75:4            | 84:2,4,12             |
| <b>access</b> 57:4    | <b>advantageous...</b> | <b>allows</b> 10:25   | <b>annotated</b>      |
| <b>accessories</b>    | 57:16                  | 15:3,4 71:8           | 66:21                 |
| 60:18                 | <b>affect</b> 21:23    | <b>alternately</b>    | <b>answer</b> 26:24   |
| <b>accordance</b>     | <b>afield</b> 61:17    | 22:19                 | 27:24 39:15           |
| 12:13 48:14           | <b>ago</b> 19:11 24:9  | <b>amount</b> 15:5,6  | 74:25 78:3,20         |
| <b>accumulate</b>     | 32:3                   | 22:7,10,21            | <b>answering</b> 65:3 |
| 71:4                  | <b>agree</b> 33:21     | 23:11,17 24:3         | 79:2                  |
| <b>achieved</b> 38:22 | 37:22 53:3             | 24:5,8,9,16           | <b>answers</b> 4:22   |
| <b>acknowledge...</b> | 60:1,3 72:2            | 25:6,9,11,13,22       | 56:6                  |
| 84:3                  | 74:14 75:21            | 25:24 26:4,21         | <b>anybody</b> 66:9   |
| <b>acrobat</b> 15:4   | <b>ahead</b> 65:7      | 27:1,4,20 28:6        | <b>anybody's</b> 5:3  |
|                       |                        | 28:8,9,16,24          | 44:21                 |

[apart - believe]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>apart</b> 29:20<br>77:16<br><b>apologies</b> 63:7<br><b>apologize</b> 7:8<br><b>apparatus</b><br>56:15,20,21<br>57:3,14<br><b>appeal</b> 1:1<br><b>appearances</b><br>3:3<br><b>appears</b> 6:1<br>14:24 25:4<br>31:8<br><b>appendage</b><br>37:3<br><b>appended</b> 84:7<br><b>applicable</b><br>77:23<br><b>application</b><br>17:14 33:12<br><b>applied</b> 17:19<br><b>apply</b> 48:7 49:1<br>57:13 74:9<br><b>applying</b> 33:6<br>73:10,21<br><b>appreciated</b><br>31:18 67:18<br><b>approached</b><br>21:11<br><b>appropriate</b><br>44:11 47:19<br><b>approximately</b><br>8:6 9:1 | <b>area</b> 21:17<br><b>argument</b> 78:6<br><b>art</b> 16:3,4<br>17:11,23 20:12<br>24:12 49:3<br>51:23 52:8<br>55:5 61:1<br>62:18 69:1,5<br>74:5<br><b>ascertains</b><br>64:21<br><b>asked</b> 19:20<br>50:13<br><b>asking</b> 47:1<br>49:8 58:5<br>75:14,15 78:16<br><b>aspects</b> 21:8<br>29:19<br><b>associated</b><br>15:16 34:20<br><b>assume</b> 69:2,5<br><b>assuming</b> 30:1<br>69:17<br><b>assure</b> 47:25<br><b>attach</b> 78:7<br><b>attempt</b> 72:5<br><b>attention</b> 38:19<br><b>audibly</b> 38:18<br><b>august</b> 1:8,13<br>81:2 82:2<br><b>available</b> 16:7<br>16:14 18:16<br>35:1 59:23 | <b>average</b> 22:21<br><b>aware</b> 6:14,16<br>18:20 41:11<br>52:11<br><b>b</b><br><b>b</b> 3:9<br><b>back</b> 8:18,24<br>9:15 13:14<br>18:17 21:10<br>28:11 34:1<br>37:12,16 39:12<br>40:8,11 49:10<br>53:19 59:5<br>64:1 66:19,20<br>68:3<br><b>ballpark</b> 8:1<br><b>bar</b> 15:21<br>64:14 68:9,13<br><b>bars</b> 69:16,17<br>70:15<br><b>base</b> 37:3<br><b>based</b> 22:22<br>29:8 33:22<br>58:2 60:11,14<br>63:12 64:23<br>66:11 68:21<br>69:4 72:19<br><b>basically</b> 20:23<br>71:6<br><b>bathroom</b> 40:6<br><b>batteries</b> 25:12<br>25:14,17 | <b>battery</b> 15:6,7<br>15:19 16:7,12<br>16:13 17:3,10<br>23:20,23 24:10<br>26:3,3,12,22,23<br>27:3,11,14,15<br>27:16,18,18,19<br>27:20 28:4,5,5<br>28:7,10,18<br>29:14,15,19<br>30:4,8 31:18<br>31:18,20,23<br>32:7,12,14,17<br>32:22 33:1,3,6<br>33:7,14,24<br>37:11,14,16<br>41:7,15,18,22<br>45:14,24 48:3<br>56:21 59:20,25<br>60:22 61:3,5<br>62:9,13,24<br>63:11,16,19,25<br>64:4,19 65:20<br>65:23 69:19<br>71:12 73:10<br>75:5,10 76:24<br>77:3<br><b>battery's</b> 32:4<br>45:2 62:22<br><b>behalf</b> 4:12<br>8:13,17<br><b>believe</b> 23:6<br>46:23 53:15<br>57:10 66:22 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[believe - charge]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 69:14<br><b>best</b> 4:24 5:5<br><b>billion</b> 20:25<br><b>binder</b> 5:19<br><b>bit</b> 11:7 13:16<br>22:8,9 40:12<br>41:25 45:16<br>59:5,6 70:17<br><b>black</b> 69:11,11<br>69:16,17<br><b>blast</b> 60:15<br><b>board</b> 1:1<br>20:20,22<br><b>bodily</b> 73:2<br>74:2<br><b>bottom</b> 14:19<br>14:20 22:6<br>46:12 65:7<br>66:24<br><b>boulevard</b> 2:4<br><b>bound</b> 71:9,10<br><b>boundary</b><br>40:24<br><b>break</b> 5:1 13:19<br>14:1 40:5<br>78:23<br><b>breakdown</b><br>10:1<br><b>brief</b> 37:19<br>40:10 78:25<br><b>briefly</b> 4:20<br><b>broke</b> 7:7<br><b>browser</b> 35:2 | <b>budget</b> 20:25<br><b>build</b> 18:20<br><b>building</b> 18:18<br><b>built</b> 17:14<br>21:18 62:19<br><b>bunch</b> 66:5<br>78:13,15<br><b>business</b> 56:22<br><b>buy</b> 27:14,14<br><div>c</div> <div>c 2:1,7 60:16<br/>81:11<br/><b>calculate</b> 62:11<br/><b>calculation</b><br/>61:23 62:17<br/><b>call</b> 11:14<br/>39:25 47:13<br/><b>calls</b> 13:7<br/><b>capable</b> 22:25<br/>25:2<br/><b>capacity</b> 15:7<br/>16:8,13,15<br/>23:23 24:10,23<br/>26:12,22 28:18<br/>28:18,20 32:1<br/>32:22 33:9,17<br/>33:19 60:2<br/>62:23,24 63:10<br/>63:17,19,25<br/>71:23 75:10<br/><b>capital</b> 21:1<br/><b>capitalist</b> 20:6</div> | <b>car</b> 20:8 21:13<br>21:18 22:3<br>26:3 37:12,13<br>37:17 46:15<br>59:1 71:14<br><b>care</b> 5:20 9:25<br><b>career</b> 8:2<br><b>carried</b> 54:25<br><b>carry</b> 55:5<br><b>case</b> 1:4 9:7<br>21:15 31:14,14<br>35:22 46:4<br>51:20 59:12<br>72:7<br><b>cases</b> 8:22 9:16<br>9:18 62:4<br><b>cause</b> 1:12 60:9<br>62:3<br><b>central</b> 40:9<br><b>certainly</b> 17:10<br>17:16,19 18:2<br>18:6,11 33:5<br>36:12 44:8<br>46:9 47:17<br>49:2,2,21<br>50:25 54:2,23<br>59:13 64:12<br>65:20 67:14<br>68:17<br><b>certificate</b> 3:7<br>81:12<br><b>certification</b><br>81:1 | <b>certified</b> 81:3<br>82:2<br><b>certify</b> 81:4,15<br>81:19<br><b>chance</b> 39:12<br><b>change</b> 7:6,12<br>7:23 22:19<br>61:4 68:8 83:4<br>83:7,10,13,16<br>83:19<br><b>changes</b> 84:6<br><b>characteristics</b><br>62:10,14 63:20<br>63:20<br><b>charge</b> 1:5<br>13:23 14:18,22<br>15:1,5,8,11,16<br>15:24 16:2,5,7<br>16:8 17:9<br>21:25 22:7,11<br>22:19,21,24<br>23:3,9,11,18<br>24:3,5,8,13,16<br>25:1,5,6,8,13<br>25:14,19,20,23<br>25:24 26:4,5,9<br>26:10,10,17,20<br>26:21,21 27:1<br>27:3,4,19,19,22<br>28:5,5,9,9,13<br>28:16,16,24,25<br>29:6,10,10,15<br>29:19,21,21,24<br>29:25 30:1,2,3 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**car** 20:8 21:13  
21:18 22:3  
26:3 37:12,13  
37:17 46:15  
59:1 71:14  
**care** 5:20 9:25  
**career** 8:2  
**carried** 54:25  
**carry** 55:5  
**case** 1:4 9:7  
21:15 31:14,14  
35:22 46:4  
51:20 59:12  
72:7  
**cases** 8:22 9:16  
9:18 62:4  
**cause** 1:12 60:9  
62:3  
**central** 40:9  
**certainly** 17:10  
17:16,19 18:2  
18:6,11 33:5  
36:12 44:8  
46:9 47:17  
49:2,2,21  
50:25 54:2,23  
59:13 64:12  
65:20 67:14  
68:17  
**certificate** 3:7  
81:12  
**certification**  
81:1

**certified** 81:3  
82:2  
**certify** 81:4,15  
81:19  
**chance** 39:12  
**change** 7:6,12  
7:23 22:19  
61:4 68:8 83:4  
83:7,10,13,16  
83:19  
**changes** 84:6  
**characteristics**  
62:10,14 63:20  
63:20  
**charge** 1:5  
13:23 14:18,22  
15:1,5,8,11,16  
15:24 16:2,5,7  
16:8 17:9  
21:25 22:7,11  
22:19,21,24  
23:3,9,11,18  
24:3,5,8,13,16  
25:1,5,6,8,13  
25:14,19,20,23  
25:24 26:4,5,9  
26:10,10,17,20  
26:21,21 27:1  
27:3,4,19,19,22  
28:5,5,9,9,13  
28:16,16,24,25  
29:6,10,10,15  
29:19,21,21,24  
29:25 30:1,2,3

[charge - common]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 30:4 31:19,23<br>31:24 32:5,6,6<br>32:7,12,13,14<br>32:15,17,18,20<br>32:21,21 33:1<br>33:3,7,14,16,20<br>33:22 41:1,6<br>41:15 45:2,13<br>46:2 48:2<br>55:14 57:16<br>58:25 59:6,8,9<br>59:14,19,24<br>60:6,22 62:13<br>62:13,20 64:1<br>64:3,8,10,12,18<br>64:21,23 65:5<br>65:17 66:18<br>67:2,5 68:10<br>68:15,21 69:6<br>69:10,12,16,18<br>69:19,24 70:7<br>70:22 71:4,4<br>71:18,19,20,21<br>72:18 73:21<br>74:7,17 75:5,6<br>75:6,9,12,19<br>76:21 77:4<br>83:1 84:1<br><b>charged</b> 12:19<br>12:22 23:15<br>36:22 37:2,6<br>37:11 48:9,18<br>48:19,20,21<br>49:19 56:2 | 57:21 58:11<br>59:7 66:6<br>74:24 77:3<br><b>charger</b> 54:21<br>71:23<br><b>chargers</b> 45:24<br><b>charging</b> 9:17<br>10:17 12:5,6,9<br>12:12,13,15<br>13:4,14,15,21<br>29:14 45:9<br>48:14,15 49:2<br>53:8,18 54:1,1<br>54:4,4,5,6,9,17<br>55:1,7,16,16,20<br>55:24 56:5,9<br>56:11,12,13,14<br>56:17,24,25<br>57:1,6,15,18<br>58:1,2,3,9,13<br>58:14,15,21,22<br>58:23 71:17,19<br>71:22 75:3<br>79:15<br><b>check</b> 46:10<br>57:10 78:22<br><b>choose</b> 43:4<br>48:4<br><b>chooses</b> 72:7<br><b>chose</b> 44:12<br><b>christine</b> 2:12<br><b>circumstance</b><br>48:5 | <b>civil</b> 1:16<br><b>claim</b> 9:24 10:4<br>10:6,8,19,19<br>11:5,7,18 12:1<br>12:10,11,12,13<br>12:23,25 13:1<br>13:13,17 14:24<br>15:16 16:9,18<br>17:7 22:5 34:1<br>34:5,14,17,19<br>36:9,15,25<br>37:3,5,6 38:1,5<br>38:23 39:4,8<br>40:14 41:5,10<br>41:13,14,20<br>42:10,12,21,22<br>43:11,14,15,19<br>43:19 46:24<br>47:7,20,25<br>48:1,1,6,7,13<br>50:2,14,20<br>51:9,21 52:8<br>53:5 78:11,12<br>78:18,18,20<br><b>claimed</b> 10:13<br>10:15<br><b>claims</b> 28:23<br>35:1 49:1 53:5<br><b>clarify</b> 19:20<br><b>clean</b> 5:11,12<br>5:17<br><b>clear</b> 24:11<br>34:19 67:15 | <b>clearly</b> 76:14<br><b>climate</b> 60:18<br><b>cluster</b> 21:17<br><b>code</b> 17:18,24<br>18:6,11<br><b>coffee</b> 37:11<br>39:23<br><b>cognitively</b><br>52:5<br><b>cohesive</b> 17:5<br><b>cold</b> 35:25 61:5<br><b>college</b> 2:4<br><b>colocated</b> 12:15<br><b>column</b> 22:14<br>24:25 26:14<br>28:24 65:7,8<br>67:17<br><b>combination</b><br>52:18,22 77:19<br><b>combine</b> 43:23<br>44:3,5 57:7,12<br>76:3,4 78:2,16<br><b>combined</b><br>73:13<br><b>combining</b> 76:5<br>78:5<br><b>come</b> 19:6 40:8<br><b>commands</b><br>67:23 68:1<br><b>commercial</b><br>21:7<br><b>common</b> 63:9<br>71:5 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[communicate - course]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>communicate</b><br>53:17 54:9<br><b>communicated</b><br>56:24<br><b>communicating</b><br>13:13<br><b>communication</b><br>10:25 34:22<br>53:20,21,25<br>54:1,3 57:3<br><b>companies</b> 8:19<br>8:23<br><b>company</b> 20:8<br>20:17,17 21:7<br><b>comparative</b><br>29:16<br><b>compared</b> 26:3<br><b>compensate</b><br>35:21<br><b>competitive</b><br>8:23<br><b>complete</b> 74:22<br>74:22 84:8<br><b>completing</b><br>53:16<br><b>completion</b><br>81:18<br><b>complicated</b><br>71:3<br><b>components</b><br>15:15 16:6<br>67:19,23,24<br><b>comprises</b> 22:6<br>35:7 | <b>computed</b><br>22:22<br><b>computer</b><br>18:24 34:16<br><b>computerized</b><br>1:15<br><b>conceivable</b><br>48:16<br><b>concept</b> 22:3<br>38:1 58:21<br>74:5,12,12<br>78:8<br><b>concierge</b> 2:12<br><b>concluded</b> 80:3<br><b>conditioner</b><br>61:15<br><b>conditions</b><br>35:16 60:4<br>61:4,10<br><b>confident</b> 19:7<br><b>configuration</b><br>10:19<br><b>configured</b><br>68:1<br><b>confirm</b> 51:25<br><b>confirmation</b><br>51:5<br><b>confirming</b><br>49:24 50:5<br><b>connected</b> 54:5<br>54:16 56:20,21<br><b>connecting</b><br>79:23 | <b>connection</b><br>79:25<br><b>connector</b> 59:1<br><b>connelly</b> 69:13<br><b>constraint</b><br>10:22<br><b>construe</b> 65:16<br><b>consume</b> 61:10<br>63:22<br><b>contact</b> 54:19<br><b>contacted</b> 20:7<br><b>contemplate</b><br>26:15<br><b>contents</b> 46:10<br><b>context</b> 11:18<br>12:1,16,23<br>15:2 22:10<br>26:4,7,25<br>27:10 28:3<br>34:19 38:23<br>39:4 41:10,20<br>42:21 50:14<br>59:22<br><b>continue</b> 13:8<br><b>control</b> 36:13<br>42:3 56:15,19<br>57:3 67:18<br><b>controls</b> 9:17<br><b>conversion</b><br>63:1,15<br><b>convert</b> 59:18<br><b>conveyed</b> 38:14<br>39:20 55:21 | <b>cool</b> 35:20<br>60:18<br><b>copy</b> 4:1 5:12<br>5:12 6:11<br>81:12<br><b>correct</b> 4:18<br>6:12 15:9<br>16:22 25:4<br>29:23 32:7<br>44:24 46:8<br>47:13 48:9,23<br>53:1,2 57:9<br>64:5 65:3 69:7<br>70:7,22 72:3<br>74:18 84:8<br><b>corrections</b><br>84:6<br><b>correspondeen...</b><br>72:24<br><b>corresponding</b><br>31:19<br><b>corresponds</b><br>27:19 28:6<br><b>coulombs</b><br>23:19 24:4<br>26:10,18 59:15<br>74:8<br><b>counsel</b> 4:12,25<br>81:19<br><b>count</b> 8:3<br><b>couple</b> 8:25<br>37:19 52:17,22<br><b>course</b> 4:24<br>5:14 61:14 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[court - determin]

|                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>court</b> 9:8 39:11<br><b>cozen</b> 2:8<br><b>cozen.com</b> 2:10<br><b>create</b> 17:18<br><b>cross</b> 40:21<br>45:21<br><b>crossed</b> 40:25<br><b>csr</b> 1:14 82:6<br><b>cto</b> 21:5<br><b>cup</b> 39:23<br><b>currently</b> 30:16<br>42:5,5 56:1<br><b>cut</b> 73:24,25                                                              | 7:21,23,24<br>8:13,17 9:2,10<br>9:13 10:2,5<br>31:7 43:24<br>45:6 57:11<br>66:20,23 70:18<br>76:5 78:1<br>79:11,18,21<br><b>declarations</b><br>9:1,6<br><b>declare</b> 84:4<br><b>declared</b> 40:20<br><b>decreased</b><br>35:16<br><b>deemed</b> 84:6<br><b>define</b> 16:3,11<br>23:8 25:21<br>27:8 45:18<br>65:10 77:12<br><b>defined</b> 13:22<br>15:2 27:7<br>40:22<br><b>defines</b> 26:20<br>41:9 45:10<br><b>definitely</b> 24:20<br><b>definition</b><br>24:14 29:25<br>75:11,14<br><b>definitions</b> 30:7<br><b>degree</b> 60:16<br><b>deliver</b> 61:6<br><b>delivered</b> 81:10<br><b>depend</b> 25:21<br>27:6 60:23 | <b>dependent</b><br>48:20<br><b>depending</b><br>10:18 18:7<br>35:16 40:3<br>48:5 59:11<br>60:4 61:4<br><b>depends</b> 33:6<br>33:11 58:12<br>62:20<br><b>deponent</b> 81:16<br>81:17 84:3<br><b>deposition</b> 1:8<br>1:10 4:2,17<br>6:19 79:22<br>80:3 81:1,8,10<br>81:18<br><b>depositions</b> 8:1<br><b>describe</b> 27:9<br>27:10 30:3,8<br>30:10 33:18<br>46:1,3 49:23<br>50:23,23 53:6<br>53:8 54:22<br>55:2,3 65:13<br>68:11 70:11,12<br>76:11<br><b>described</b><br>15:15 24:12,22<br>25:22 26:11,14<br>28:11,19,20<br>32:2 38:1<br>46:24 54:14,25<br>56:23 58:19 | 69:9 75:6,12<br>77:7,8 79:8<br><b>describes</b> 24:8<br>45:17 53:6,11<br>54:20,24 56:4<br>56:7 65:6,21<br>67:17 68:16<br>70:10,14 75:20<br>76:9,10 77:10<br><b>describing</b><br>23:22 65:18<br><b>description</b><br>3:10 29:16<br>41:13 51:22<br>52:13 64:15<br>65:20 68:2<br>74:22 75:23<br><b>design</b> 19:24,25<br>21:8<br><b>designated</b><br>51:18<br><b>designed</b> 17:14<br><b>designing</b><br>20:14<br><b>desired</b> 22:19<br>22:24 23:1,3,9<br>25:1 33:22<br>74:6<br><b>detail</b> 54:25<br><b>detect</b> 54:16<br>57:14<br><b>detects</b> 55:15<br><b>determin</b> 45:23 |
| <b>d</b>                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>d</b> 3:1<br><b>dallas</b> 2:9<br><b>date</b> 18:3,13,14<br>82:6 83:24<br>84:12<br><b>day</b> 4:5,6 5:4<br>5:25 82:2<br>84:15<br><b>deal</b> 78:11<br><b>dealing</b> 9:16<br><b>decharging</b><br>71:14<br><b>decided</b> 21:2<br><b>decision</b> 6:22<br>7:2,22<br><b>declaration</b><br>3:11,11 4:15<br>5:10 6:8,15,20<br>6:22,25 7:6,12 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

[determine - effectiveness]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>determine</b> 23:1<br>41:14 45:1,13<br>53:10 54:23<br>55:4 62:25<br>63:11 64:7,9<br>64:22 65:4<br>75:2,18,18<br><b>determined</b><br>22:23 53:9<br>55:3 65:21<br><b>determines</b><br>57:24,25<br><b>determining</b><br>41:6,17 46:2<br>64:11 65:10<br><b>developed</b><br>17:21<br><b>developing</b><br>21:14<br><b>device</b> 14:6,6<br><b>dewalt</b> 27:14<br><b>difference</b> 6:1<br>25:5,8,8 29:9<br>38:12,24 39:5<br>39:17 50:3,15<br><b>differences</b> 6:4<br><b>different</b> 20:15<br>25:11,14 27:16<br>27:17 29:18,22<br>32:6,15 63:8<br><b>dig</b> 69:13<br><b>direct</b> 61:22<br>63:14 | <b>directions</b><br>69:10<br><b>directly</b> 56:24<br>59:18,25 62:6<br>72:2<br><b>disagree</b> 58:12<br><b>discharge</b><br>71:12<br><b>disclosed</b> 65:11<br><b>disclosure</b><br>66:15<br><b>disclosures</b><br>45:23<br><b>display</b> 13:23<br>14:3,4,6,25<br>15:3,22 17:9<br>34:5,9,12<br>38:22 42:18<br>49:17 50:7,12<br>51:2,8,9,12<br>59:23 64:16,18<br>64:20,21 67:12<br>67:15,20,25<br>68:5,17,24<br>69:2,11,12<br>72:20,22,25<br>73:4 74:23<br>75:7,16 76:1<br><b>displayed</b><br>15:23 35:1<br>50:9 51:1 69:6<br><b>displaying</b> 17:9<br>34:20 38:12,15<br>38:21,25 39:6 | 50:4,6,16 51:7<br>51:9,11 52:15<br><b>displays</b> 17:17<br>22:1,1 51:2<br>67:5<br><b>distance</b> 22:25<br>23:1,4 25:2<br>59:16,21 60:10<br>60:17 73:9,12<br><b>dock</b> 59:1<br><b>documents</b><br>5:13,18,25 7:4<br>7:9,10,19<br><b>doing</b> 19:22<br><b>donnelly</b> 44:22<br>45:1,8,15,16,16<br>45:17,20,23<br>46:1,4,6,18,20<br>47:22,24,25<br>49:23 50:6<br>64:5,7,9,10,22<br>65:4 66:1,16<br>66:20 67:16,17<br>68:11,16 69:14<br>69:24 70:6,14<br>72:22,22 73:3<br>73:11,13,21<br>74:1,9,13 76:3<br>77:16,20,23<br>78:2<br><b>donnelly's</b><br>45:22 46:14,25<br>47:5,9 49:4<br>50:9 64:11,15 | 67:7 68:2<br>72:16,25 73:4<br><b>double</b> 46:10<br>57:10<br><b>dr</b> 6:22,25 7:23<br><b>drawn</b> 72:11<br><b>driver</b> 37:23<br>42:1,4,8<br><b>driving</b> 22:23<br>42:4 60:16,18<br>60:19 61:9,10<br>64:21<br><b>drop</b> 36:1<br><b>duly</b> 1:11 4:9<br>81:6<br><b>dynamically</b><br>61:14 |
| <b>e</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |
| <b>e</b> 2:1,1 3:1,9<br>11:7 83:3,3,3<br><b>earlier</b> 12:25<br>39:23 40:12<br>48:12 59:8<br>79:7<br><b>easier</b> 5:13<br><b>easiest</b> 5:21<br>10:3<br><b>easily</b> 30:3 73:1<br><b>effectively</b><br>21:20 70:2<br><b>effectiveness</b><br>61:3                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                     |

[effects - explicitly]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>effects</b> 62:2<br><b>efficiency</b><br>62:16,16<br><b>efficient</b> 5:2<br><b>either</b> 10:11,18<br>24:9 26:13<br>27:8 30:10<br>32:20,23 33:15<br>37:17 40:19<br>74:7 76:2<br><b>elaborate</b> 60:20<br><b>electric</b> 9:3<br>11:9,12 19:16<br>19:21,21,24<br>20:1,14,15<br>21:8,13 22:2<br>35:9,9 41:16<br>44:24 45:14<br>46:15 50:16<br>53:17 58:10<br>59:22 60:12,13<br>60:15,18<br><b>electrical</b> 10:17<br>27:24 49:18<br>50:17 53:17<br>56:14 62:11<br>63:19 71:6<br><b>electromecha...</b><br>63:20<br><b>electronic</b> 5:12<br>64:11<br><b>electrons</b> 23:19<br><b>element</b> 12:12<br>13:24 14:17,18 | 14:22,24 15:1<br>15:8,11,12,14<br>15:17,17,24<br>16:2,5,12<br>17:15 36:9,15<br>42:12,22 43:15<br>43:19 48:13<br>64:2 66:17,18<br>67:3 68:10,12<br><b>elements</b> 13:12<br>17:16 18:19<br>21:20,23 35:1<br>36:25 68:5<br>78:11<br><b>elkins</b> 1:14 81:3<br>82:5<br><b>employed</b><br>81:20<br><b>employee</b> 21:4<br><b>empty</b> 69:11<br><b>encompasses</b><br>22:16<br><b>endeavor</b> 20:24<br><b>energy</b> 27:20<br>28:6 31:19<br>45:19 65:11<br>71:12<br><b>engineer</b> 27:24<br>29:21<br><b>ensure</b> 47:22<br><b>entertained</b><br>20:9<br><b>entire</b> 54:20<br>57:2 63:23 | 76:24<br><b>entirely</b> 33:11<br>58:12<br><b>equipment</b><br>55:16 56:5<br><b>equivalent</b> 59:8<br>59:10,13,24<br>76:17,19<br><b>erise</b> 2:3<br><b>eriseip.com</b> 2:5<br><b>errors</b> 62:1<br><b>especially</b> 4:21<br>42:21<br><b>essentially</b> 18:5<br>23:8 29:17<br>65:19<br><b>established</b><br>18:2,24<br><b>estimate</b> 22:20<br>61:11,20 68:21<br><b>estimated</b><br>61:20,25 69:18<br><b>estimation</b><br>61:23,24<br><b>ev</b> 71:5,6<br><b>event</b> 40:20<br><b>everybody</b> 7:14<br><b>exact</b> 16:10<br>25:13 57:20<br>60:17 62:3<br>69:3<br><b>exactly</b> 16:19<br>28:10 30:1,5<br>32:2 54:13 | 61:2 77:6<br><b>examination</b><br>3:6,6 4:10 79:5<br><b>example</b> 22:23<br>23:7 31:24<br>32:1 33:16<br>49:20 51:5<br>59:16 67:7<br>75:1<br><b>excuse</b> 62:12<br><b>exhibit</b> 3:11,11<br>5:6,14 6:2,8,9<br>30:13,19,22<br>31:5 34:2<br><b>existed</b> 17:19<br><b>existing</b> 65:17<br><b>exit</b> 57:17<br><b>exited</b> 43:20<br><b>expect</b> 62:18<br><b>expected</b> 62:12<br>62:12 69:3<br><b>expensive</b><br>20:24<br><b>experience</b><br>17:13 60:11,14<br><b>expert</b> 60:12,14<br><b>expiration</b> 82:6<br><b>explicit</b> 72:6<br>77:13<br><b>explicitly</b> 13:1<br>13:2 34:17<br>50:20 51:8<br>54:22 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[exposing - fusion]

|                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>exposing</b> 5:6<br><b>express</b> 22:24<br>32:4,19,20,21<br>32:23 33:1,3,7<br>33:8,10<br><b>expressed</b><br>31:23 32:5,17<br>33:15<br><b>expressing</b><br>32:11<br><b>external</b> 57:18<br>62:2<br><b>eyes</b> 25:3                                                                                                           | <b>fashion</b> 72:8<br><b>fast</b> 37:18<br><b>feasible</b> 34:23<br><b>federal</b> 1:16<br><b>feedback</b> 49:24<br><b>feet</b> 33:5<br><b>ferro</b> 45:4,6,8<br>45:13 46:1,3<br>53:3,6,6,12,16<br>53:19,24 54:14<br>54:20,25 55:5<br>55:21 57:8<br>58:1 76:9,22<br>76:22 77:8,10<br>77:16,21 78:4<br>79:8,14,19<br><b>ferro's</b> 45:9<br>55:5 58:5<br>76:17<br><b>figure</b> 23:6,6,7<br>46:10 53:24<br>56:19 65:24,25<br>66:3 68:4,5<br>69:6,20 70:17<br>70:18,19,19<br>75:1,17,22<br><b>file</b> 31:2<br><b>fill</b> 76:24<br><b>financially</b><br>81:22<br><b>find</b> 47:24<br>69:14<br><b>fine</b> 5:24 6:3<br>40:7 55:23 | 70:20<br><b>firm</b> 82:8<br><b>first</b> 9:10,13,15<br>10:7 14:23<br>20:5 48:11<br>58:19 66:15,17<br>67:3<br><b>five</b> 9:21,22<br>27:15 31:8<br>40:5,7<br><b>flat</b> 60:19<br><b>floor</b> 2:4<br><b>folder</b> 5:17<br>30:20<br><b>folks</b> 71:5<br><b>following</b> 81:5<br><b>follows</b> 4:9<br><b>foray</b> 20:5<br><b>ford</b> 21:11 22:2<br><b>foregoing</b> 84:5<br><b>forgive</b> 7:1<br><b>form</b> 11:3 12:3<br>15:25 16:23<br>23:13 25:15<br>26:6 29:2 32:8<br>36:23 37:7<br>38:15,17 41:3<br>41:19 42:25<br>43:13 44:1,7<br>46:21 48:10,24<br>49:14 50:19<br>53:22 56:3<br>57:23 60:7<br>61:21 64:25 | 67:13 70:1<br>71:1 73:15,18<br>75:24 76:7<br>77:17<br><b>formal</b> 23:18<br>24:13,15,21<br><b>formed</b> 20:17<br><b>fort</b> 82:8<br><b>forth</b> 13:14<br>51:8<br><b>found</b> 46:13<br><b>four</b> 18:23<br>45:12<br><b>fraction</b> 24:10<br>31:25 33:17,19<br><b>frankly</b> 78:13<br><b>frcp</b> 81:15<br><b>free</b> 32:23<br><b>friend</b> 20:6<br><b>front</b> 48:6 49:6<br><b>froze</b> 7:7<br><b>full</b> 5:17 60:6<br>60:15 68:15<br><b>function</b> 15:12<br>16:21,24<br><b>further</b> 11:7<br>13:16 15:1<br>21:3 34:4 80:1<br>80:2 81:15,19<br>81:22<br><b>fusion</b> 1:5 83:1<br>84:1 |
| <b>f</b>                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>f</b> 81:16<br><b>fact</b> 21:10<br>35:21 55:19,22<br>60:24 77:20<br><b>factors</b> 60:5,8<br>60:23<br><b>failing</b> 25:3<br><b>fair</b> 9:20 19:1<br>27:18 28:4<br>43:22 44:4<br>58:8 59:15<br>61:18 64:13<br>68:13<br><b>fairly</b> 22:16<br>58:24 71:3<br><b>fairness</b> 28:3<br><b>far</b> 22:20 23:2<br>61:16 71:9<br>75:7 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

[galvez - home]

| <b>g</b>               |                        | <b>graph</b> 64:14    | <b>h</b>               |
|------------------------|------------------------|-----------------------|------------------------|
| <b>galvez</b> 78:5,9   | 22:5,12 23:6           | 66:6 68:9,14          | <b>h</b> 3:9 13:17     |
| <b>gears</b> 59:5      | 24:14 27:13            | 68:22 72:16           | 22:5 66:21             |
| <b>general</b> 22:21   | 31:15 34:1             | <b>graphic</b> 69:9   | 83:3                   |
| 27:3 29:20             | 38:5 44:16             | <b>graphical</b>      | <b>habits</b> 22:23    |
| 38:21 48:25            | 47:7 53:19             | 13:22 14:2,4,6        | <b>half</b> 27:15      |
| 53:13 56:14            | 55:9 60:1,5,17         | 14:11,25 15:2         | <b>halfway</b> 68:14   |
| 59:6 68:24             | 61:12 63:22            | 15:13,19 16:19        | 72:9                   |
| <b>generally</b> 8:20  | 64:10,12,17,24         | 16:22 17:14,20        | <b>hand</b> 51:1       |
| 79:13                  | 65:7,24 66:19          | 18:10,15,18           | 76:15,16,17,19         |
| <b>geographically</b>  | 66:19 68:3             | 21:12,14 34:6         | <b>handful</b> 6:16    |
| 21:22                  | 69:13 70:6,16          | 34:9,12,13,18         | <b>hang</b> 50:22      |
| <b>geometrically</b>   | 72:9                   | 35:3 38:25            | <b>happen</b> 47:2     |
| 21:22                  | <b>goes</b> 61:15,16   | 39:6 46:6,24          | 48:5                   |
| <b>getting</b> 37:10   | 65:8,12,13             | 46:25 47:7            | <b>happens</b> 40:3    |
| <b>giant</b> 5:19      | 71:25                  | 49:7 50:4,17          | <b>hard</b> 30:7       |
| <b>give</b> 4:24 29:3  | <b>going</b> 5:2,5,9   | 50:25 64:16           | <b>head</b> 4:22       |
| 39:8,14 55:25          | 8:23 11:14             | 67:20 76:1            | 18:25                  |
| 67:16                  | 13:19 14:14            | <b>graphically</b>    | <b>hear</b> 7:13,16    |
| <b>given</b> 8:2 12:16 | 20:19,24 22:15         | 18:8                  | 34:15                  |
| 18:13 22:21            | 29:3,15 34:1           | <b>graphics</b> 69:1  | <b>heat</b> 35:18,22   |
| 27:20 28:7             | 35:5,18,19             | <b>great</b> 77:4     | 36:2 44:14             |
| 31:20 42:21            | 37:15 40:4             | <b>ground</b> 4:20    | <b>help</b> 21:8       |
| 45:22 59:20            | 44:14 59:5,22          | 46:18                 | <b>helpful</b> 22:4    |
| 61:2,3 71:22           | 60:23 61:8             | <b>guess</b> 5:24     | <b>hereto</b> 84:7     |
| 74:17,25 75:5          | 68:25 72:20            | 19:19,19 74:2         | <b>high</b> 8:4 20:16  |
| 75:22 81:8             | 73:2,2                 | 74:25                 | <b>highlighted</b>     |
| 84:9                   | <b>goldberg's</b> 6:22 | <b>guessing</b> 66:11 | 70:19 76:15            |
| <b>giving</b> 75:14    | 6:25 7:23              | <b>gui</b> 18:19,24   | <b>hill</b> 11:25 12:7 |
| <b>go</b> 4:20 8:18,24 | <b>gonna</b> 9:23      | 39:21,22 46:14        | <b>hindsight</b> 76:15 |
| 9:15 13:20             | <b>good</b> 4:11 6:5   | 47:16 48:6            | <b>hit</b> 30:25       |
| 14:14 18:4,17          | 60:25 61:1             | 52:15 67:20,24        | <b>home</b> 23:2       |
| 18:22 19:4             | 69:8                   | 74:12                 |                        |
|                        | <b>gosh</b> 8:8 64:17  |                       |                        |

[hot - interface]

|                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>hot</b> 78:13<br><b>hour</b> 27:15,15<br>40:5 63:13<br><b>hours</b> 6:23<br>23:20 26:19<br>27:12 31:25<br>32:13 33:8,10<br>33:16 61:2,6<br>62:9 63:1,12<br>63:16,22<br><b>hugely</b> 20:24<br><b>huh</b> 53:14<br><b>hybrid</b> 20:14<br><b>hypothetical</b><br>11:24 60:2,20<br>61:9                          | <b>implementing</b><br>74:12 76:22<br><b>implications</b><br>12:16<br><b>implicit</b> 52:1<br><b>implied</b> 48:16<br>74:11<br><b>implies</b> 12:11<br><b>imply</b> 35:2<br><b>important</b><br>72:14<br><b>include</b> 14:5,7<br>43:24 44:9<br>79:23<br><b>included</b> 19:7<br>21:25<br><b>includes</b> 64:16<br>64:18<br><b>including</b> 56:18<br><b>incorporate</b><br>20:16 73:3<br><b>incorporation</b><br>74:3<br><b>incorrect</b> 62:3<br><b>incorrectness</b><br>62:5<br><b>increased</b><br>35:16<br><b>incumbent</b><br>49:16<br><b>indentations</b><br>75:22<br><b>indicate</b> 54:18<br>55:10,13,14 | 72:18 73:20<br>79:24<br><b>indicated</b> 61:16<br><b>indicates</b> 11:17<br>55:15 74:6<br><b>indicating</b><br>52:25 54:10<br><b>indication</b> 16:6<br>34:6 56:16<br>57:5<br><b>indicative</b> 11:8<br>11:11 13:4<br>48:2<br><b>indicator</b> 13:24<br>14:18,22 15:1<br>15:8,11,16,24<br>16:2,5,11<br>56:18 64:1<br>66:18 67:3<br>68:10<br><b>inductive</b> 58:15<br><b>inform</b> 41:22<br>44:9 56:17<br>58:6<br><b>information</b><br>11:8,11 13:4<br>13:14 14:4<br>34:11 51:12<br>55:21,25 67:15<br>75:2,17<br><b>informed</b> 42:13<br>42:18,19<br><b>ing</b> 45:23 | <b>initial</b> 61:11<br><b>initiate</b> 13:12<br>41:21<br><b>input</b> 13:22<br>14:7 76:11<br>77:6,7,11,12<br><b>inputs</b> 76:11<br><b>installed</b> 47:1<br>56:6<br><b>instance</b> 1:11<br>70:14<br><b>instances</b> 60:3<br><b>institution</b> 6:22<br>7:1,21<br><b>instrument</b><br>21:17<br><b>interact</b> 57:17<br>67:12<br><b>interacted</b> 68:6<br><b>interactive</b><br>67:5<br><b>interchangea...</b><br>24:2<br><b>interchangea...</b><br>29:18<br><b>interested</b> 82:1<br><b>interface</b> 13:23<br>14:2,25 15:3<br>15:13,20 16:22<br>17:14 18:15,18<br>21:13,15,18<br>34:6,10,13,18<br>35:3 39:1,7<br>43:17,18 46:7 |
| <b>i</b>                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>idea</b> 20:9 71:5<br><b>identical</b> 25:16<br><b>identify</b> 68:5<br><b>illustrates</b> 78:7<br><b>imagine</b> 37:10<br>37:13 54:14<br><b>immaterial</b><br>55:18<br><b>implement</b> 18:7<br>18:16 21:12<br>34:24 72:19<br><b>implementati...</b><br>73:6<br><b>implemented</b><br>21:15,16 46:14<br>67:24 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

[interface - large]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 46:25,25 47:7<br>47:9,16 49:7<br>50:4,17 52:2<br>64:16 67:20,21<br><b>interfaces</b><br>14:11 17:20<br><b>interior</b> 35:8,8<br>35:12,21 36:17<br>43:5<br><b>interpret</b> 12:20<br>25:10 68:25<br><b>interpretation</b><br>69:15<br><b>interrogation</b><br>57:14<br><b>introduce</b> 5:9<br>30:12 31:1<br><b>introduced</b> 6:7<br>20:10 30:19,22<br><b>inventors</b> 20:11<br><b>investors</b> 20:18<br><b>involved</b> 9:3<br>45:16<br><b>involvement</b><br>58:4<br><b>ip</b> 2:3<br><b>ipr</b> 1:4 8:7,10<br><b>ipr2020-01189</b><br>31:7<br><b>ipr2025-00032</b><br>4:15<br><b>iprs</b> 8:12<br><b>isolation</b> 78:7 | <b>issue</b> 7:15<br><b>issues</b> 5:15<br><b>it'll</b> 39:24<br><b>itinerary</b> 22:22<br><b>j</b><br><b>j</b> 36:9,25 37:1<br>43:15<br><b>j.b.</b> 20:10,13<br>21:3<br><b>janalyn</b> 1:14<br>81:3 82:5<br><b>japan</b> 20:20<br><b>job</b> 83:2<br><b>join</b> 20:22<br><b>joined</b> 21:4<br><b>joules</b> 59:15<br><b>k</b><br><b>k</b> 34:5 36:25<br>37:1 43:17<br><b>kansas</b> 2:4<br><b>kids</b> 49:11<br><b>kilometers</b><br>59:17<br><b>kilowatt</b> 26:19<br>27:12 61:2,6<br>62:9 63:1,12<br>63:13,16,22<br><b>kilowatts</b> 63:9<br><b>kind</b> 5:22 9:25<br>10:1 11:13<br>13:19 14:1,15<br>15:12 17:4<br>20:17 21:21 | 22:5,9 37:18<br>37:22 44:17,20<br>52:18 55:9,18<br>58:4,13 59:7<br>66:6,7,8,10<br>68:14,17 75:22<br>77:6 78:13<br>79:24<br><b>kinds</b> 22:1 43:4<br><b>knew</b> 62:10<br><b>know</b> 4:23,24<br>5:1,16,21 7:5<br>7:11 8:6,16,22<br>10:1 11:15<br>13:13 15:22<br>16:2,3 17:2,3,5<br>17:13,24 19:9<br>19:10 20:23<br>21:7,8,21,25<br>22:8 23:8,18<br>24:9,15,20<br>25:9 26:2<br>27:13,14,16<br>28:12,13,23<br>29:17 30:17,23<br>31:1 33:3,4,5<br>33:21,23 34:23<br>35:17,24 38:18<br>38:18 40:1<br>43:3 48:4,18<br>49:10,22,23<br>51:19 52:5,5<br>54:9,14 56:1,6<br>56:10,12 57:19 | 58:15,16,17,23<br>58:25 60:24<br>61:2,7,9,19<br>62:7,8,14,15,19<br>62:22 63:9,10<br>63:14,15,25<br>64:3 65:15<br>66:7,9,15 67:1<br>67:10,11 68:4<br>68:14,17 69:22<br>70:5,9,9 71:5<br>71:20 72:6,9<br>72:15,21 73:2<br>73:24,25 74:1<br>74:4,8,10,15,16<br>74:17 75:5<br>76:4,14 77:22<br>78:8,10 79:14<br>79:18,20,23<br><b>knowing</b> 63:16<br>63:18,19 70:4<br><b>knowledge</b><br>29:21 69:4<br><b>l</b><br><b>l</b> 35:5 36:16,25<br>37:1 42:22<br><b>labeled</b> 10:7<br>66:7<br><b>lack</b> 5:6<br><b>laptop</b> 14:12<br>21:16 33:9<br><b>large</b> 8:19<br>58:24 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[lay - main]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>lay</b> 18:8<br><b>layout</b> 16:19<br><b>learn</b> 74:5<br><b>leave</b> 37:24<br>43:25 44:6,12<br>44:15 57:8,22<br><b>leaves</b> 43:11<br><b>left</b> 62:8,9<br>69:19,25 71:10<br>76:15,16<br><b>legal</b> 74:2 82:7<br><b>letendre</b> 70:16<br>70:21,24,25<br>72:7,10,17,23<br>73:3,5,10,12,23<br>73:25,25 74:5<br>74:11,16,21<br>75:20 76:2,4<br>76:14,14 77:13<br>77:16,19,20<br><b>letendre's</b> 71:7<br>73:20 74:11,19<br>75:1,16<br><b>level</b> 16:7 17:9<br>21:25 22:20,24<br>23:3,9 25:1,5,9<br>25:10,22,23<br>26:5,9,11,17,21<br>27:3,19,19,23<br>28:5,5,16,25<br>29:10,22,24,25<br>30:4,9 31:19<br>31:23 32:5,7<br>32:12,14,17,20 | 32:22 33:1,3,7<br>33:15,21,23,23<br>37:14 41:2<br>61:19 62:12,20<br>64:21 68:15<br>69:10,12,16,18<br>72:18 73:6<br>74:7,17 75:3,5<br>75:6,12 76:9<br>76:10,21<br><b>levels</b> 25:14<br>45:11 76:13<br><b>libraries</b> 18:12<br>18:15,18,24<br><b>library</b> 18:4,20<br>18:22 19:2,5<br><b>likely</b> 42:23<br>43:3 75:23<br><b>limitation</b> 10:7<br>10:22 13:20<br>14:15 15:16,24<br>32:25 35:5,6<br>40:13 41:5<br>42:10 44:23<br>46:17 51:13<br>52:9<br><b>limitations</b><br>33:2 53:4<br><b>limited</b> 38:17<br><b>limiting</b> 75:11<br><b>line</b> 14:24 25:3<br>45:11 65:7<br>67:17 79:13<br>83:4,7,10,13,16 | 83:19<br><b>linear</b> 68:14,18<br>68:24 69:2<br>72:2<br><b>lines</b> 22:14<br>45:12 66:13<br><b>listing</b> 10:4<br><b>literally</b> 70:13<br><b>little</b> 11:6 13:16<br>20:8 22:8,9<br>34:4 40:4,12<br>41:25 59:5,6<br>69:23 70:17<br><b>llc</b> 1:6 83:1<br>84:1<br><b>load</b> 62:15<br><b>local</b> 51:18<br><b>locally</b> 51:3<br><b>located</b> 10:24<br>11:2 37:21<br>54:21 55:1,16<br>56:1,16 57:6<br>58:1,16<br><b>location</b> 10:22<br>10:24 12:21<br>34:18 56:5,17<br>57:25 58:7<br>59:3<br><b>locomotive</b><br>65:16 67:19<br><b>logical</b> 11:15<br><b>logically</b> 32:14<br><b>long</b> 13:17 14:2<br>39:8 | <b>longer</b> 9:21<br><b>look</b> 8:18,24<br>9:15 12:10<br>18:17,22 39:2<br>46:23 49:17<br>51:19 53:24<br>55:9 56:19<br>64:10,12,24<br>65:24 67:14<br>69:21<br><b>looked</b> 31:9<br>51:25 69:9<br><b>looking</b> 5:23<br>10:4 33:19<br>46:10 49:6<br>64:1 67:4<br><b>looks</b> 66:8,11<br>66:12 79:20<br><b>losing</b> 64:17<br><b>lost</b> 8:3 9:9<br><b>lot</b> 59:2,7 60:23<br><b>lower</b> 37:9,14<br>45:18 48:13<br>65:9 71:8,10<br><b>lydia</b> 2:3<br><b>lydia.raw</b> 2:5 |
| <b>m</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>m</b> 36:25 37:1<br><b>machine</b> 1:15<br><b>made</b> 52:11<br>79:25 84:5<br><b>main</b> 2:8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

[maintain - modification]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>maintain</b> 35:12<br>35:19 36:3,13<br>43:5 44:11<br><b>maintained</b><br>36:20 38:3<br>43:8<br><b>maintaining</b><br>35:8 36:17<br>42:22<br><b>make</b> 5:4,22<br>19:4 31:11<br>40:17 44:17,19<br>51:6 65:2<br><b>man</b> 20:10<br><b>manner</b> 21:7<br>22:25 32:25<br>34:12 73:12<br><b>manually</b> 57:17<br><b>manufacturer</b><br>41:12<br><b>mark</b> 30:25<br><b>marked</b> 6:9<br>30:18,19 31:5<br><b>match</b> 23:3<br><b>mathematical</b><br>11:15<br><b>mathematically</b><br>72:6<br><b>matter</b> 10:15<br>11:4,5 61:13<br><b>maximum</b><br>26:13,22,22<br>33:23 45:10<br>63:24 76:9,12 | 76:21,23,23,24<br>76:24 77:1,10<br>77:14<br><b>mean</b> 15:14,17<br>16:24 19:21,22<br>19:24 30:8<br>34:9 35:13<br>40:15 43:3<br>49:18 58:13<br>59:20 61:15<br>62:4 63:18<br>70:10 73:3<br>78:12<br><b>meaning</b> 24:5<br>75:9<br><b>meaningful</b><br>25:8<br><b>meanings</b><br>29:22<br><b>means</b> 24:17<br>30:3 34:11<br>35:14 38:14<br>40:24 49:23<br>50:24 69:10,12<br>69:14 76:23<br><b>meant</b> 70:10<br><b>measure</b> 26:19<br>28:12 59:14<br>60:21,22 62:1<br>63:9<br><b>measured</b> 30:2<br>31:24 32:1<br><b>measures</b> 28:13<br>59:21 | <b>measuring</b><br>26:16 65:14,22<br><b>mechanism</b><br>53:20 64:19<br>77:7<br><b>meet</b> 15:23<br><b>meeting</b> 20:20<br><b>meets</b> 51:13<br><b>members</b> 20:21<br><b>mention</b> 37:4<br>79:20<br><b>mentioned</b><br>18:12 24:25<br><b>merged</b> 15:23<br><b>mess</b> 78:13<br><b>met</b> 18:9<br><b>method</b> 65:9<br><b>metric</b> 24:16,21<br><b>metrics</b> 25:25<br>27:5<br><b>michael</b> 2:7<br>4:12 5:11 7:17<br>81:11<br><b>mid</b> 18:19<br><b>middle</b> 66:7<br><b>mile</b> 60:2 61:11<br>63:9,12,22<br>72:1<br><b>mileage</b> 23:12<br><b>miles</b> 23:10,24<br>23:25 24:11,23<br>28:21 59:16,17<br>59:18,21,23<br>60:5 62:7,20 | 63:2,5,7,7,13<br>70:6,13 71:24<br>72:1,1,10,12,12<br>74:8,24<br><b>milliamp</b> 31:25<br>32:13 33:8,16<br><b>millimeters</b><br>58:17<br><b>mind</b> 43:24<br>44:13,15<br><b>mine</b> 20:6<br><b>minimum</b><br>45:10 71:20<br>76:10,13,17,18<br>76:21 77:2,11<br>77:14<br><b>minor</b> 60:9<br><b>minute</b> 24:8<br>29:3 39:8 40:5<br>51:20 65:2<br>78:23<br><b>minutes</b> 19:6<br>32:3 40:6<br><b>missed</b> 7:1<br><b>missing</b> 77:21<br><b>mistakes</b> 6:15<br><b>mode</b> 34:7 35:7<br>35:14 36:4,10<br>37:14 43:19<br>44:10 56:20<br><b>modes</b> 38:19<br><b>modification</b><br>73:23 74:10 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[modify - okay]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>modify</b> 73:4<br><b>modifying</b><br>73:11,11<br><b>moment</b> 31:10<br><b>monitored</b><br>67:21<br><b>months</b> 21:14<br><b>morning</b> 4:11<br><b>motivated</b><br>57:13<br><b>motivation</b><br>44:8,9 57:7,11<br>77:15<br><b>motivations</b><br>43:23 44:3,5<br>78:1<br><b>motor</b> 62:16<br><b>mountain</b><br>60:17<br><b>mouse</b> 67:11<br><b>mouth</b> 19:8<br>44:21<br><b>move</b> 48:7<br><b>moving</b> 11:6<br>13:16 34:4<br><b>mpomeroy</b><br>2:10<br><b>muffled</b> 52:20<br><b>multiple</b> 9:16<br>24:22 | 40:16 41:14<br>43:19,19 44:17<br>44:18<br><b>name</b> 4:12 19:2<br>19:5 31:2<br><b>named</b> 20:10<br><b>nancy</b> 38:6,7<br>40:16 44:18<br><b>nature</b> 4:22<br><b>navigation</b> 22:1<br><b>near</b> 14:19,20<br>46:11<br><b>necessarily</b><br>27:6 29:24<br>38:21 48:7,11<br>52:10 56:25<br>58:10 63:3<br><b>necessary</b> 84:6<br><b>need</b> 4:25 10:1<br>10:14,16 11:22<br>12:5 14:9<br>19:22 30:8,17<br>35:20 36:2<br>37:12 54:12<br>55:6 58:22<br>62:14,15,22<br>63:24 70:8,8<br>73:4 78:22<br><b>needs</b> 10:24<br>12:8 16:5,6,8<br>40:22 42:11<br>55:21<br><b>neither</b> 81:19 | <b>network</b> 53:25<br>54:2<br><b>new</b> 65:9<br><b>nods</b> 4:22<br><b>non</b> 73:12<br><b>nonlinear</b><br>68:24<br><b>normally</b> 42:8<br><b>notary</b> 84:13<br>84:19<br><b>noted</b> 84:7<br><b>notes</b> 78:22<br><b>number</b> 9:18<br>23:9,19,19,25<br>24:11,23 26:10<br>26:18,18 28:21<br>33:4,8,10<br>38:19 39:25<br>62:3 66:3<br>70:14 71:24<br><b>numbered</b> 1:12 | 49:14 50:19<br>53:22 56:3<br>57:23 60:7<br>61:21 64:25<br>67:13 70:1<br>71:1 73:15,17<br>73:18 75:24<br>76:7 77:17<br><b>objective</b> 74:6<br><b>objectives</b><br>18:10,10<br><b>obtained</b> 76:12<br><b>obvious</b> 46:13<br><b>obviously</b> 7:5<br>28:23 33:2<br>35:18 49:16<br>54:6 55:9<br>58:13 59:2<br>71:21 76:23<br><b>occur</b> 40:25<br>53:7,21 56:11<br><b>occurred</b> 7:11<br><b>occurring</b> 36:5<br>36:7 54:21<br><b>occurs</b> 40:21<br><b>office</b> 1:1 4:4<br><b>officer</b> 81:7<br><b>oh</b> 8:18 13:9<br>23:17 63:8<br><b>okay</b> 5:9 6:6,10<br>6:14 10:4,6,13<br>11:11 12:8<br>18:12 19:1,25<br>23:11 26:1 |
| <b>n</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>o</b>                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>n</b> 2:1 3:1 37:5,6<br>37:8 38:5,6,7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>o'connor</b> 2:8<br><b>object</b> 4:25<br><b>objection</b> 11:3<br>12:3 13:7<br>15:25 16:23<br>23:13 25:15<br>26:6 29:2 32:8<br>36:23 37:7<br>41:3,19 42:25<br>43:13 44:1,7<br>46:21 48:10,24                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

[okay - patent]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>30:21 31:6,15<br/>31:16 34:4<br/>37:4 38:8 40:5<br/>44:16,19 46:16<br/>52:23 63:8<br/>65:24 66:25<br/>68:20 69:4,17<br/>70:20 72:13<br/>79:12<br/><b>ones</b> 24:22<br/><b>operate</b> 42:7<br/><b>operating</b> 42:6<br/><b>operation</b> 34:7<br/>35:7,15 36:4<br/>36:10 43:19<br/>54:20<br/><b>operational</b><br/>45:19 65:10,15<br/>67:22,23<br/><b>operations</b><br/>48:18 54:24,24<br/>55:6<br/><b>operator</b> 37:23<br/>38:10,20,25<br/>39:6,19,20,22<br/>39:22 40:3<br/>41:22,22,25,25<br/>42:8,11,14,16<br/>42:17,18,24<br/>43:4,11,15,15<br/>43:20,25 44:6<br/>44:10,23 46:17<br/>46:19,20,22<br/>47:2,19,23</p> | <p>48:2,3 49:5<br/>50:1,3,10,11,16<br/>50:21 51:7,10<br/>51:14,15,17,25<br/>52:2,3,3,4,10<br/>52:16<br/><b>operator's</b><br/>51:22<br/><b>opinion</b> 10:21<br/>13:3 16:20<br/>23:12 24:4<br/>26:1 28:25<br/>37:5 43:10<br/>44:17 51:13<br/><b>opinions</b> 7:6,12<br/>7:23<br/><b>opposed</b> 61:23<br/>66:20<br/><b>oral</b> 1:8,10 81:7<br/><b>order</b> 14:4<br/>21:23 33:21<br/>36:3 44:15<br/>49:17 55:5<br/>62:17,25<br/><b>ordinary</b> 17:23<br/>69:5<br/><b>original</b> 81:10<br/><b>outcome</b> 82:1<br/><b>output</b> 14:6,6<br/><b>outside</b> 9:2<br/>21:6 27:2,8<br/>35:18,25 43:7<br/>60:4</p> | <p><b>overall</b> 62:16<br/>75:9<br/><b>overland</b> 2:4<br/><b>own</b> 7:24<br/><b>owner</b> 4:13<br/>6:21,24 8:17<br/>8:21 38:2<br/><b>oyobe</b> 52:17,22<br/>52:24 53:11<br/>55:10,12,17,22<br/>55:24 56:4,7,8<br/>56:17,23 57:1<br/>57:7 78:2,3,5<br/><b>oyobe's</b> 56:15<br/>57:13,19,24<br/>78:8,8</p> | <p><b>parent</b> 28:23<br/><b>park</b> 2:4<br/><b>parked</b> 11:20<br/>11:22,24 35:24<br/>36:8,11,14,18<br/>36:20 37:13<br/>42:6 48:8,22<br/>49:1 53:8,10<br/>56:5 57:15<br/>58:22,23<br/><b>parking</b> 11:9<br/>11:12,17,19,21<br/>11:23 12:1,5,9<br/>12:14,18,21,23<br/>13:5,11 59:1<br/><b>part</b> 17:16 38:9<br/>40:23 47:8<br/>56:10 57:7<br/>66:16<br/><b>particular</b> 18:9<br/>18:20 21:15<br/>41:5 62:11,20<br/>70:13 72:7,8<br/><b>parties</b> 51:18<br/>81:13,20<br/><b>party</b> 81:17<br/><b>pass</b> 79:3<br/><b>past</b> 22:23<br/><b>paste</b> 73:24,25<br/><b>patent</b> 1:1,1,4<br/>4:12 6:21,21<br/>6:24 7:22 8:17<br/>8:21 10:2<br/>11:19 12:2,17</p> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>p</b></p>                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>p</b> 2:1,1<br/><b>p.m.</b> 1:14<br/><b>pad</b> 14:12<br/>21:18,19,21<br/><b>page</b> 3:2,10<br/>10:5 75:21<br/>83:4,7,10,13,16<br/>83:19<br/><b>paper</b> 5:12,19<br/><b>paragraph</b><br/>31:15 45:5,8<br/>45:12,22 46:11<br/>50:8 57:12<br/>79:10,17<br/><b>parameters</b><br/>16:16 67:22</p>       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

[patent - portions]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12:24 17:24<br>18:3,15 22:10<br>22:12,14 23:5<br>23:7,21 24:6,7<br>24:14,22 25:20<br>25:23,24 26:5<br>26:8,11,15,25<br>27:2,9,23 28:1<br>28:4,11,14,17<br>28:19 29:4,9<br>29:11 36:19<br>38:23 39:2,4<br>43:12 47:18<br>50:15,22 51:16<br>51:23,23,24<br>52:13,13 53:5<br>58:20 61:17<br>70:10 75:7,13<br><b>peace</b> 43:24<br>44:13,15<br><b>people</b> 8:20<br><b>perceive</b> 25:7<br><b>percent</b> 8:9,15<br>23:22 26:13<br>66:10 68:15<br>69:7,24 70:3,6<br>70:9,12 74:8<br>74:16 75:3<br><b>percentage</b><br>8:12 23:9,12<br>23:21 24:23<br>28:20 30:3<br>32:1,22 33:9<br>61:24 70:11 | 75:9,19<br><b>percentages</b><br>74:8<br><b>perform</b> 48:17<br><b>performance</b><br>20:16<br><b>performed</b><br>19:15,20 37:1<br>42:10<br><b>person</b> 16:4<br>17:10,23 18:3<br>24:12 25:9<br>42:3,5,6 49:3<br>52:7 55:4<br>60:25 62:18<br>69:1,4 72:21<br>74:4 76:21<br><b>personally</b> 5:20<br>9:25<br><b>perspective</b><br>14:5 23:18<br>26:18<br><b>pet</b> 35:9 37:14<br>37:21 38:4<br>42:23 43:5,9<br>44:12 48:17<br><b>petitioner</b> 1:3<br>2:2 8:14<br><b>pets</b> 78:11<br><b>ph</b> 82:9<br><b>phone</b> 34:15,16<br>39:24 51:25<br><b>phrased</b> 28:9 | <b>physical</b> 58:24<br>75:21,23<br><b>physically</b><br>54:15 79:23,25<br><b>picture</b> 15:18<br>64:14 66:16<br>67:4<br><b>pictures</b> 66:8<br><b>piece</b> 55:20<br><b>pieces</b> 20:12<br><b>pitch</b> 20:18<br><b>pixels</b> 16:11<br><b>place</b> 11:20<br>12:6 29:5<br>35:25 54:11<br>59:2<br><b>places</b> 21:21<br>29:18<br><b>plan</b> 45:9<br><b>planning</b> 42:7<br><b>play</b> 55:22<br><b>please</b> 4:3<br>79:10,17<br><b>plenty</b> 14:10<br><b>plugged</b> 54:15<br>58:17<br><b>plugging</b> 79:22<br><b>point</b> 8:3 27:21<br>28:7 31:20<br>36:13 45:5,9<br>45:17 58:1<br>72:14 79:21,22<br><b>points</b> 45:18<br>65:9 | <b>pomeroy</b> 2:7<br>3:6 4:11,12<br>5:20 6:7,11<br>7:14,20 11:6<br>12:8 13:16<br>16:20 17:1<br>23:16 25:18<br>27:2 29:8<br>30:11,15,21<br>31:6 32:11<br>37:4,18 39:11<br>39:17 40:4,8<br>40:11 41:8,24<br>43:10,22 44:4<br>44:16 47:4<br>48:22 49:4<br>50:2 51:11<br>52:21 54:8<br>56:8 58:8<br>60:11 62:6<br>65:4 68:8 70:4<br>71:25 74:14<br>76:3 77:15,25<br>78:21 79:1<br>80:2 81:11<br><b>pomeroy's</b> 4:4<br><b>portion</b> 15:9<br>16:12,13,15<br>17:8 54:19<br>64:4 67:2,3,4<br>78:18,18<br><b>portions</b> 16:21<br>56:18 64:2,3<br>66:17 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[posita - range]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>posita</b> 17:22<br>31:17 46:12<br>50:10 57:13<br>59:18<br><b>position</b> 12:19<br>44:20 56:2,11<br>57:20 58:10<br>72:25<br><b>power</b> 27:17<br>37:16 56:20<br>61:11 63:21<br><b>precision</b> 58:16<br>58:18 59:3<br><b>precisions</b><br>58:19<br><b>predated</b> 21:18<br><b>predefined</b><br>40:13,14,16,18<br>40:23 41:1,7,9<br>41:16,18 45:2<br>45:24<br><b>preferably</b><br>67:24<br><b>preferences</b><br>13:14,21 45:10<br>58:3<br><b>preliminary</b><br>6:21,25 7:22<br><b>prepare</b> 6:18<br><b>prepared</b> 7:5<br><b>prescribes</b><br>16:18<br><b>presence</b> 11:9<br>11:12 52:25 | <b>present</b> 2:12<br>9:2 34:11<br>77:24<br><b>presented</b><br>46:18 69:19<br>72:10<br><b>presenting</b><br>49:25<br><b>press</b> 67:10<br><b>presumably</b><br>11:13 42:3<br>47:9<br><b>presumed</b><br>43:16<br><b>pretty</b> 24:11<br>31:13 47:18<br>61:16<br><b>prior</b> 18:14,21<br>19:3 20:12<br><b>priority</b> 18:3<br>18:13,14<br><b>probably</b> 8:4,8<br>8:9,10,15,24<br>9:4,22 10:6<br><b>problem</b> 28:12<br>76:5,8 77:9<br>78:4<br><b>procedure</b> 1:17<br><b>proceeding</b><br>4:13 81:21<br><b>proceedings</b><br>8:7<br><b>process</b> 65:14<br>65:22 79:19 | <b>processor</b> 11:1<br>11:2 34:23<br><b>produced</b> 1:10<br><b>products</b> 21:9<br><b>project</b> 21:3<br><b>provide</b> 4:14,21<br>14:4 29:15<br>44:5 53:19<br>67:20 68:20<br>69:18 71:23<br>74:21 75:17<br>78:1,6<br><b>provided</b> 4:17<br>8:17 12:18<br>43:23 50:24<br>76:13 77:19<br><b>provides</b> 14:3<br>47:18 51:2<br>65:21 77:13<br><b>providing</b> 8:13<br>43:24 67:23<br>77:7<br><b>provision</b> 14:7<br>52:12<br><b>provisions</b> 1:17<br><b>public</b> 84:19<br><b>purpose</b> 13:3<br>13:10,11 37:23<br>41:17 54:6<br>71:15<br><b>purposes</b> 58:14<br><b>pursuant</b> 1:16<br>81:15 | <b>put</b> 6:2 17:11<br>17:17 19:8<br>21:12 30:19<br>44:21 58:10<br>61:14 71:8,10<br>72:22                                                                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>q</b>                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>quantitative</b><br>24:16,21 26:17<br>28:12,13<br><b>quantity</b> 29:25<br>30:2<br><b>quarters</b> 69:23<br><b>question</b> 4:23<br>19:20 20:1<br>26:24 27:25<br>28:2 29:7 39:3<br>39:9,13 50:13<br>50:14 56:7<br>65:1 69:8 73:6<br><b>questions</b> 37:19<br>52:17,22 59:7<br>79:2,13 80:1<br><b>quick</b> 12:10<br><b>quickly</b> 31:3 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>r</b>                                                                                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>r</b> 2:1 83:3,3<br><b>r&amp;d</b> 20:25<br><b>radio</b> 60:15<br><b>raise</b> 21:1<br><b>ramos</b> 78:5,9<br><b>range</b> 22:19<br>23:3,25 24:24                                                                                                                                                                                        |

**[range - remote]**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26:13,22 28:21<br>33:21,22,23<br>45:19 59:23<br>60:21 61:12,15<br>61:16,19,20<br>62:12 63:5,7<br>63:11,15,23,24<br>64:23 65:5,10<br>65:15,16,19,19<br>69:25 70:3,5,9<br>70:12 71:18<br>74:9 75:19<br><b>raw</b> 2:3 3:6 4:1<br>4:3,7 5:11 6:23<br>7:16 11:3 12:3<br>13:7 15:25<br>16:23 23:13<br>25:15 26:6<br>29:2 32:8<br>36:23 37:7<br>41:3,19 42:25<br>43:13 44:1,7<br>46:21 48:10,24<br>49:14 50:19<br>53:22 56:3<br>57:23 60:7<br>61:21 64:25<br>67:13 70:1<br>71:1 73:15,18<br>75:24 76:7<br>77:17 78:24<br>79:6 80:1<br><b>reached</b> 41:7<br>41:16,18,23 | 45:2,24 46:2<br><b>reacts</b> 52:12<br><b>read</b> 6:20,20,21<br>12:16 22:15<br>24:8 25:1 29:4<br>39:12,13 49:3<br>50:7 65:8,12<br>74:24 84:5<br><b>reading</b> 11:7<br>13:20 22:6,18<br>25:10 31:17,22<br>34:5 35:7<br>41:14 45:12,17<br>45:22 46:12<br>50:8 52:8<br>57:12 65:8<br>67:18<br><b>reads</b> 50:21<br><b>ready</b> 39:14<br>57:20<br><b>really</b> 8:8 23:22<br>28:17,22 33:11<br>48:20 50:13<br>58:5 64:13<br>70:18 71:16<br>73:8,22 74:11<br>74:21 76:23<br>77:18<br><b>reason</b> 83:6,9<br>83:12,15,18,21<br><b>reasonably</b><br>69:2<br><b>reasons</b> 43:4 | <b>recall</b> 17:17<br>19:6 20:19,20<br>79:13<br><b>receive</b> 11:7<br>36:9,12 47:8<br>47:21 49:5,8,9<br>49:12,17 52:3<br>68:1<br><b>received</b> 13:22<br>47:4 49:25<br>51:6<br><b>receives</b> 47:23<br>56:15<br><b>receiving</b> 13:4<br>14:7 49:24<br>52:25<br><b>recess</b> 40:10<br>78:25<br><b>recognize</b><br>75:20<br><b>recollection</b><br>79:19<br><b>record</b> 1:17 6:8<br>30:16,18 81:8<br><b>refer</b> 5:13<br>29:13<br><b>reference</b> 78:17<br><b>references</b><br>28:16 43:23<br>76:6<br><b>referring</b> 25:19<br>28:24 29:18<br><b>refers</b> 25:20 | <b>refreshes</b> 79:18<br><b>regarding</b> 4:14<br><b>regardless</b><br>51:14 77:23<br><b>registration</b><br>82:8<br><b>relate</b> 41:1<br><b>related</b> 21:22<br>36:18 48:17<br>59:25 67:25<br>78:15,17 81:20<br><b>relates</b> 41:4<br><b>relation</b> 78:19<br><b>relative</b> 23:23<br>23:25 24:9,24<br>26:11,21 28:17<br>28:21<br><b>relevant</b> 77:22<br><b>relied</b> 66:16<br><b>rely</b> 45:7 52:24<br>64:4,11 65:25<br>66:14 67:1<br>68:9 70:21,23<br><b>relying</b> 44:22<br>45:1,4,6 64:14<br>64:15,19<br><b>remaining</b> 16:7<br><b>remains</b> 36:11<br>36:20<br><b>remember</b><br>18:25 19:10<br>31:13,14 79:6<br><b>remote</b> 35:3<br>42:13,19 51:19 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[remote - sell]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>51:19<br/> <b>remoted</b> 21:16<br/> <b>remotely</b> 40:2<br/> 42:20 51:3<br/> <b>repeat</b> 28:2<br/> 39:9 52:19<br/> <b>rephrase</b> 4:24<br/> <b>reported</b> 1:15<br/> <b>reporter</b> 4:1,4<br/> 39:11 52:19<br/> 81:4<br/> <b>reporter's</b> 3:7<br/> 81:1<br/> <b>reporting</b><br/> 26:16<br/> <b>reports</b> 9:7,8<br/> <b>represent</b><br/> 69:16,17 73:12<br/> 77:6<br/> <b>representative</b><br/> 28:8 72:4<br/> <b>represented</b><br/> 11:16 33:20<br/> 74:7<br/> <b>represents</b><br/> 24:16<br/> <b>requested</b> 4:5<br/> 39:13 81:17<br/> <b>require</b> 13:1,2<br/> 48:1 51:5<br/> 52:10 59:2<br/> <b>required</b> 58:5<br/> 84:13</p> | <p><b>requirement</b><br/> 17:12 36:24<br/> 41:8 42:9,14<br/> 44:14 52:4<br/> <b>requires</b> 48:1<br/> 51:24 67:19<br/> <b>requisite</b> 5:18<br/> <b>research</b> 19:4<br/> <b>reside</b> 41:14<br/> <b>resides</b> 15:6<br/> <b>residing</b> 41:6<br/> 41:15 45:13,24<br/> 48:2<br/> <b>respondent</b> 1:6<br/> 1:11 2:7<br/> <b>response</b> 6:21<br/> 6:25 7:22 8:21<br/> <b>rest</b> 13:12<br/> <b>restate</b> 36:6<br/> <b>result</b> 45:20<br/> 55:19<br/> <b>retained</b> 21:6<br/> <b>review</b> 7:1<br/> 79:17<br/> <b>reviewed</b> 6:24<br/> 7:10,20<br/> <b>reviewing</b><br/> 57:11<br/> <b>right</b> 5:5 9:23<br/> 15:10 18:25<br/> 22:4 30:21<br/> 34:1 42:15<br/> 61:20 64:22<br/> 66:18 70:20</p> | <p>75:8 76:2,16<br/> 76:19,25<br/> <b>road</b> 11:25<br/> 12:7<br/> <b>roughly</b> 66:12<br/> <b>route</b> 54:2,7<br/> <b>rules</b> 1:16 4:20<br/> <b>rush</b> 4:7</p> <p><b>s</b></p> <p><b>s</b> 2:1 3:9 83:3<br/> <b>sat</b> 6:23<br/> <b>saying</b> 33:14<br/> 50:6 52:21<br/> 66:10 71:17<br/> 76:20 77:2,20<br/> <b>says</b> 10:8 14:17<br/> 16:9,17 17:7<br/> 22:6 23:8<br/> 28:25 35:6<br/> 38:10 48:14<br/> 51:17 55:19,24<br/> 77:11<br/> <b>scale</b> 68:13<br/> 72:2,4,15,18,19<br/> 72:24 73:5,9<br/> 73:12 74:15<br/> <b>scaled</b> 72:7<br/> <b>scales</b> 72:1,9<br/> <b>schedule</b> 12:13<br/> 48:15 58:2<br/> <b>scientific</b> 24:14<br/> <b>scott</b> 1:8,10 3:5<br/> 4:8 5:11 31:12</p> | <p>81:1,6 83:2,24<br/> 84:2,4,12<br/> <b>scratch</b> 17:22<br/> <b>screen</b> 21:16,20<br/> 21:23 46:14<br/> 50:7,12 68:1,2<br/> <b>screens</b> 67:25<br/> <b>screwdriver</b><br/> 27:14<br/> <b>seat</b> 49:10<br/> <b>second</b> 38:9<br/> 66:15,17 67:3<br/> 67:16<br/> <b>see</b> 6:20 10:6,7<br/> 11:6,10 13:17<br/> 13:20,25 14:14<br/> 14:17 15:4,5<br/> 16:1 17:7<br/> 27:13 30:23<br/> 31:17,22 34:5<br/> 34:8 35:6 38:9<br/> 48:4 49:5<br/> 71:25<br/> <b>seek</b> 71:23<br/> <b>seem</b> 48:19<br/> <b>seen</b> 69:9<br/> <b>sees</b> 52:5<br/> <b>select</b> 33:22<br/> 61:18<br/> <b>selected</b> 34:7<br/> 35:7 36:4<br/> 43:18<br/> <b>sell</b> 71:4,11</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[sells - sorry]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>sells</b> 21:7<br><b>sen</b> 50:11<br><b>send</b> 38:10,17<br>39:21,24,25<br>40:2 46:17<br>47:12 48:3<br>50:21 51:17,21<br><b>sending</b> 38:13<br>38:14,16,17,20<br>38:22,24 39:5<br>41:21 44:23<br>45:25 46:4<br>48:1 50:3,15<br>51:10,13 52:1<br>52:2,9,9,15<br><b>sends</b> 47:24<br>50:6<br><b>sense</b> 24:18<br><b>sensing</b> 13:11<br><b>sensor</b> 10:8,10<br>10:11,11,12,13<br>10:23 11:8<br>52:24 53:4,11<br>54:10,12,13<br>55:8,9,10,12,12<br>55:17,19 56:16<br>56:23 57:19,24<br>58:6 78:9<br>79:24<br><b>sensors</b> 53:12<br>54:16,18,22<br>55:3 79:8<br><b>sent</b> 5:25 48:8<br>49:22 50:1 | 51:7<br><b>separate</b> 15:20<br>16:14 17:2<br>27:4 29:20<br>77:16,19<br><b>separately</b><br>15:23<br><b>sequence</b> 48:16<br><b>series</b> 67:25<br><b>served</b> 81:12<br><b>set</b> 16:16 23:3<br>36:13,13 41:11<br>41:12,13 45:18<br>51:8 65:9<br>71:13 72:23<br>74:16 75:3,18<br>76:10,13,22<br>77:10,11,14<br><b>sets</b> 76:22<br><b>setting</b> 45:18<br>65:9 71:16<br>77:1<br><b>several</b> 21:14<br><b>share</b> 5:7,14<br>6:2<br><b>shelve</b> 21:2<br><b>shift</b> 59:5<br><b>shop</b> 37:12<br><b>short</b> 22:16<br><b>shorthand</b> 81:3<br><b>shortly</b> 21:3<br><b>shown</b> 22:2<br>57:1 70:23,24<br>75:16 81:13 | <b>shows</b> 16:12,14<br>23:7<br><b>side</b> 8:22 11:25<br>12:6 71:17<br>76:15,19<br><b>signal</b> 11:14,16<br>57:5<br><b>signature</b> 81:16<br>82:5<br><b>significant</b> 25:7<br><b>significantly</b><br>61:10<br><b>silent</b> 28:14<br><b>silicon</b> 20:7<br><b>similar</b> 77:25<br><b>similarly</b> 35:24<br><b>single</b> 15:12,12<br>15:14,17 17:5<br><b>sit</b> 49:19<br><b>sitting</b> 6:14<br>19:1 35:18<br>37:11 49:6<br><b>situation</b> 26:16<br><b>situations</b> 61:7<br><b>sizes</b> 27:17<br><b>skill</b> 16:4 17:10<br>17:23 24:12<br>49:3 52:7 55:4<br>61:1 62:18<br>69:1,5 74:4<br><b>skills</b> 18:6<br><b>skim</b> 31:11<br><b>slider</b> 15:9,21<br>16:8,15 17:1,4 | 17:8,15,16,18<br>17:25 18:7,16<br>18:21 19:3,7<br>22:6,9 61:19<br>70:21,23 71:16<br>72:22,25 73:1<br>73:7,9,20 74:6<br>74:17 76:16<br><b>sliders</b> 17:20<br>19:10 70:24<br>71:8 77:5<br><b>sliding</b> 72:17<br><b>small</b> 62:5<br><b>smartphone</b><br>35:2 47:8,10<br>47:12,16,21<br>51:21,22<br><b>snowy</b> 35:25<br><b>solely</b> 70:21<br><b>solution</b> 77:21<br><b>solutions</b> 82:7<br><b>solved</b> 76:5<br>77:9<br><b>solves</b> 76:9<br>78:3<br><b>somebody</b> 73:1<br><b>somewhat</b> 65:6<br><b>sorry</b> 7:7,13<br>9:6,9 13:9<br>14:15 18:13<br>19:14 34:15<br>36:5 39:8,9<br>45:7 49:15<br>73:16 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[sort - system]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>sort</b> 20:15<br>34:11 55:8<br><b>space</b> 11:9,12<br>11:17,19,21,23<br>12:1,9,14,18,21<br>12:23 13:5,12<br><b>specialized</b><br>24:5<br><b>specific</b> 16:5<br>19:2 22:13,22<br>30:6 33:15<br>36:19 40:17<br>47:18 78:1<br><b>specifically</b><br>12:14 22:14<br>34:22 55:2<br><b>specification</b><br>12:17 29:6,13<br>39:18,19<br><b>specified</b> 22:7<br>40:24 59:11,12<br>70:22 71:24<br><b>specifies</b> 23:5<br><b>specify</b> 10:20<br>11:5 12:11<br>25:25 29:11,12<br>35:4 37:8<br><b>speculate</b> 47:2<br><b>speculating</b><br>37:25<br><b>speculation</b><br>13:7<br><b>spent</b> 20:13<br>21:14 | <b>stand</b> 52:14<br><b>stanford</b> 20:10<br><b>started</b> 9:20<br>20:18<br><b>state</b> 1:14<br>12:14 16:13<br>32:9 33:20<br>34:17 36:11,21<br>47:11 59:8,13<br>65:17 69:6<br>81:4<br><b>stated</b> 1:17<br>6:24 37:22<br>40:12 43:2<br><b>statement</b> 25:1<br>31:17 33:13<br>42:16<br><b>states</b> 1:1 34:5<br>67:22<br><b>station</b> 10:17<br>12:5,6,9,15<br>49:2 53:8,18<br>54:1,4,4,5,9<br>55:1,7,14,16,20<br>55:25 56:10,12<br>56:13,24 57:6<br>57:15,18 58:1<br>58:9,22,24<br><b>status</b> 34:7<br><b>steering</b> 9:17<br><b>stereotype</b> 1:15<br><b>step</b> 51:5<br><b>stipulations</b> 3:4 | <b>storage</b> 45:19<br>65:11 71:6<br><b>stored</b> 27:4,20<br>28:6,10 31:20<br>31:24 32:5,6<br>32:12,15,18,21<br><b>strange</b> 76:20<br><b>straubel</b> 20:11<br><b>street</b> 2:8 82:7<br><b>strike</b> 18:13<br>19:14 60:13<br><b>stroia</b> 2:12<br>30:17,25<br><b>stuff</b> 15:5 22:2<br><b>styled</b> 1:12<br><b>subject</b> 62:2<br><b>submitted</b> 7:11<br>7:12,24 9:2,11<br>9:14<br><b>submitting</b><br>7:21<br><b>subscribed</b><br>84:14<br><b>substantive</b><br>6:17<br><b>substantively</b><br>25:11<br><b>successful</b> 21:2<br><b>sue</b> 8:20<br><b>sued</b> 8:20<br><b>suggested</b> 20:7<br><b>suggesting</b><br>72:15 73:23 | <b>suitable</b> 35:9<br>37:21 38:3<br>42:23<br><b>suite</b> 2:8 82:7<br><b>summer</b> 20:13<br><b>sun</b> 35:23<br><b>superimpose</b><br>72:16<br><b>superimposed</b><br>16:10 17:8<br><b>supports</b> 33:14<br><b>suppose</b> 51:20<br><b>supposed</b> 40:25<br><b>sure</b> 5:22,24<br>15:14 19:4<br>31:11 40:7,17<br>43:3 44:17,19<br>51:6 59:17<br>65:2 68:4<br>69:13 75:7<br><b>surprised</b> 20:8<br><b>sworn</b> 1:12 4:9<br>81:7 84:14<br><b>system</b> 11:16<br>13:4,15 24:19<br>40:19 46:6,18<br>46:20 49:5<br>51:25 53:9<br>56:9,10,14,25<br>57:2 59:20<br>62:11,17 64:11<br>64:20 67:18<br>69:25 70:3,5,6<br>70:9 71:3,7,7 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[system - time]

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 71:19 74:19,23<br>75:18<br><b>systems</b> 61:13<br>63:10 | <b>teaches</b> 45:13<br>45:23,25 77:21<br><b>teaching</b> 72:17<br>72:17 73:7,19<br>73:20,21 74:9<br>76:2 77:13                                                                                                                                                                                                                                                                                                                                                                                                              | <b>terms</b> 22:24<br>24:23 25:2<br>26:8 27:7 28:1<br>28:19,21 29:13<br>29:16,17 30:2<br>30:7 31:23,25<br>32:5,12,17<br>59:3 70:11,13                                                                                                                                                                                                                                                                                                                                                        | 49:2 51:16<br>52:7,14 59:10<br>65:17 66:4,7,9<br>66:23 72:4,5<br>72:14 78:21                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>t</b>                                                 | <b>tech</b> 8:19<br><b>technical</b> 5:15<br><b>technologies</b><br>1:6 83:1 84:1<br><b>technology</b> 5:6<br><b>tel</b> 2:5,9<br><b>tell</b> 31:2 63:18<br>63:21,22,23,24<br><b>tells</b> 49:20<br><b>temperature</b><br>33:4 35:8,12<br>35:15,20 36:1<br>36:3,12,13,14<br>36:17,20 38:3<br>42:23 43:5,8<br>44:11 48:17<br>60:16<br><b>temperatures</b><br>78:12<br><b>temporal</b> 48:15<br><b>ten</b> 40:6,7<br>78:23<br><b>tend</b> 8:19<br><b>tending</b> 49:11<br><b>term</b> 14:23<br>16:3 22:5 24:5<br>27:22 29:5,10 | <b>terrain</b> 60:4,19<br><b>tesla</b> 1:3 9:11<br>9:14,16,19,20<br>21:4 83:1 84:1<br><b>testified</b> 4:9<br><b>testimony</b> 4:14<br>4:17 81:8 84:8<br><b>texas</b> 1:15 2:9<br>81:4 82:6,8<br><b>thank</b> 79:1,4<br><b>thing</b> 15:3<br>22:17 23:24<br>29:1 33:10<br>50:22 65:13<br><b>things</b> 4:22<br>5:23,23 9:18<br>14:11 21:24<br>34:20 55:22<br>65:14,23 78:13<br>78:14,15<br><b>think</b> 6:4 8:4<br>10:3 20:11<br>22:16 25:1,9<br>28:8 30:22,25<br>33:13 37:3<br>43:1,2 48:25 | <b>thinking</b> 19:5<br><b>third</b> 14:24<br>15:9 21:4<br><b>thirds</b> 8:10<br>69:22,23<br><b>thought</b> 9:9<br><b>three</b> 15:15<br>16:21 18:23<br>45:12 64:2<br>69:23<br><b>threshold</b> 37:9<br>37:9,10 40:13<br>40:15,16,18,22<br>40:23 41:1,7,9<br>41:16,18,23<br>45:3,21,25<br>46:3 48:12,13<br>48:13 71:11<br><b>throckmorton</b><br>82:7<br><b>thursday</b> 1:13<br><b>tie</b> 66:9<br><b>tied</b> 23:12,15<br>23:16,17<br><b>time</b> 4:25 5:2,3<br>8:16 27:21<br>28:7 31:20<br>36:2,22 39:10<br>40:9 42:4 43:8 |

[time - user]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47:3 53:7 61:3<br>71:22 75:5<br>79:2<br><b>times</b> 8:21<br><b>today</b> 4:14 5:2<br>6:14 18:25<br>19:1 79:2,7<br><b>today's</b> 6:18<br><b>together</b> 15:21<br>16:21,25 17:11<br>17:17 21:12<br>76:16<br><b>told</b> 20:23 62:7<br><b>tolerance</b> 58:24<br><b>top</b> 15:19,22<br>17:3 18:25<br><b>total</b> 23:23,25<br>28:20,21 31:25<br>33:17,19 62:24<br>63:10,11 70:3<br>74:9 75:19,19<br><b>touch</b> 14:12<br>21:18,19,20,21<br>46:14 68:1,12<br><b>touchable</b><br>21:22<br><b>touched</b> 68:6<br><b>touchscreen</b><br>14:9,12,13<br>68:3,7<br><b>touchscreens</b><br>21:19<br><b>toyota</b> 20:21 | <b>toyota's</b> 20:25<br><b>tracked</b> 37:18<br><b>trademark</b> 1:1<br><b>train</b> 9:9 46:7<br>63:21<br><b>transactions</b><br>53:7<br><b>transcript</b> 4:5<br>81:7 84:5,8<br><b>translation</b><br>62:19<br><b>travel</b> 22:20<br>23:1<br><b>traveled</b> 22:25<br>25:2 63:9<br><b>trial</b> 1:1<br><b>trip</b> 20:19<br><b>true</b> 81:8 84:8<br><b>try</b> 5:2,5,9 7:18<br>37:19<br><b>trying</b> 5:3 19:8<br>28:22 30:11,12<br>35:22 36:1<br>44:20 59:1<br>66:9 71:2 73:8<br><b>turn</b> 79:10<br><b>two</b> 8:10 15:21<br>25:12 27:4,7<br>27:15 28:25<br>29:13,22 32:2<br>45:11 64:3<br>69:22,23 71:8<br>72:1 75:12<br>76:6 77:5 | 78:10<br><b>type</b> 54:10,12<br><b>typically</b> 14:3<br>24:4<br><b>typos</b> 6:17<br><b>u</b><br><b>u.s.</b> 1:4<br><b>uh</b> 53:14<br><b>uncharge</b> 64:4<br><b>uncharged</b><br>15:6<br><b>under</b> 26:4<br><b>understand</b><br>4:13,23 16:4<br>24:17 28:22<br>44:17 50:22<br>52:8 53:23<br>55:6 61:1 73:8<br><b>understanding</b><br>19:9 27:3 29:8<br>42:2<br><b>understands</b><br>52:6,11<br><b>understood</b> 9:9<br>24:13 46:13<br>50:10 74:1<br><b>unit</b> 17:6 45:19<br>59:14,16 65:11<br><b>united</b> 1:1<br><b>units</b> 25:20<br>59:11,13 70:15<br><b>unrelated</b><br>78:10,14,15 | <b>uphill</b> 60:16<br><b>upload</b> 30:11<br><b>upper</b> 37:9<br>45:18 48:12<br>65:9<br><b>use</b> 5:14,25<br>14:11 18:9<br>23:21,24 26:20<br>28:23 67:11<br>70:17 71:6,13<br>72:20 73:7<br>78:8<br><b>useable</b> 65:19<br><b>used</b> 17:16<br>25:25 26:8<br>27:13,23 29:6<br>54:23 69:15<br><b>useful</b> 27:10<br><b>user</b> 13:22,22<br>14:2,5,8,11,25<br>15:2,13,20<br>16:22 17:14,20<br>18:15,18 21:12<br>21:14 22:18<br>23:1 24:17<br>33:23 34:6,10<br>34:13,18 35:3<br>38:25 39:6<br>41:9,12 43:17<br>43:18 44:9<br>46:6,25,25<br>47:7 49:7,24<br>50:4,17 51:6<br>55:11,13 57:8 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

[user - way]

|                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 57:16,19,21<br>58:6 64:16<br>67:10,12,20,21<br>75:4 76:13<br><b>user's</b> 58:4<br><b>uses</b> 14:12<br>29:13,16,17<br><b>using</b> 33:9<br>40:19 42:5<br>51:20 65:5<br>67:25 72:21<br>73:20 74:15<br><b>utilized</b> 22:24                                                                                                                                          | 12:19,22 13:5<br>13:6,10,11,15<br>13:23 14:18,22<br>15:1,8,11,24<br>16:2,5 19:21<br>19:24 20:1,14<br>20:15 21:13<br>22:3,20 24:1<br>34:7,20,21<br>35:9,10,17,18<br>35:20,21 36:1<br>36:2,5,7,10,11<br>36:14,17,22<br>37:2,5,22,24<br>38:2,4 39:21<br>39:23 40:2<br>41:16 42:3,6,7<br>42:8,12,13,15<br>42:17,19,24<br>43:6,6,7,11,16<br>43:21,21,25<br>44:6,12,13,15<br>44:24 45:14<br>46:8,9,15,19,23<br>47:1,3,6,20<br>48:8,14,18,20<br>48:22 49:1,18<br>49:19,21 50:11<br>50:16,18 52:24<br>53:1,4,7,10,12<br>53:17,24 54:3<br>54:5,8,15,16,18<br>54:21 55:1,10<br>55:12,15,24 | 56:5,10,16,18<br>56:25 57:2,5,9<br>57:15,17,20,22<br>57:25 58:3,10<br>59:4,22,23<br>60:2,3,5,12,13<br>60:15,18 61:9<br>62:8,21 63:12<br>63:24 64:1<br>66:18 67:2<br>68:10 78:9<br>79:7,14<br><b>vehicle's</b> 11:24<br>56:1<br><b>vehicles</b> 9:3<br>19:16,21 21:8<br><b>venture</b> 20:6<br>21:1<br><b>verbal</b> 4:21<br><b>veritext</b> 82:7<br><b>versa</b> 23:2<br><b>versus</b> 25:22<br><b>vertical</b> 66:13<br><b>vibration</b> 38:18<br><b>vice</b> 23:2<br><b>view</b> 22:19 24:1<br>29:17<br><b>viewing</b> 67:21<br><b>voice</b> 39:25<br>47:12<br><b>voltage</b> 65:14<br><b>voltages</b> 65:22<br><b>vs</b> 1:4 | <b>w</b><br><b>walk</b> 9:23<br><b>want</b> 4:1,6 5:21<br>9:23 14:1 22:4<br>38:5 40:14<br>43:4 44:16,19<br>50:21 52:17,21<br>59:15 65:2,24<br>66:19 70:16<br>71:17 76:22<br>77:2<br><b>wanted</b> 5:15<br>18:5,8 20:21<br>21:11,12 22:9<br>26:20 74:16<br><b>wanting</b> 77:10<br><b>wants</b> 55:23<br><b>warm</b> 61:6<br><b>warned</b> 37:15<br><b>warning</b> 45:21<br>47:5,9 50:9,11<br>52:5<br><b>wasting</b> 5:3<br><b>watt</b> 23:20<br>27:15,15<br><b>way</b> 15:5 17:10<br>17:12 21:1<br>24:22 27:8,9<br>27:22 28:9<br>29:12 30:10<br>32:20,23,24,25<br>34:24 37:17<br>38:15 43:2 |
| <b>v</b>                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>v</b> 83:1 84:1<br><b>valley</b> 20:7<br><b>value</b> 23:22<br>40:18,19<br><b>variable</b> 11:15<br>11:15<br><b>variation</b> 60:9<br><b>variations</b> 60:9<br>60:24 61:8<br><b>various</b> 13:13<br>16:16 18:19<br>20:18 21:23<br>29:18 65:22<br>67:19,21,22,24<br><b>vehicle</b> 10:8,10<br>10:12,12,13,14<br>10:16,23 11:8<br>11:9,12,17,20<br>11:22 12:12,18 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

[way - zoom]

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 47:18 51:9<br>52:15 60:25<br>61:1 62:6,8<br>63:14 67:6,12<br>68:8,18 70:5<br>72:11 73:6<br>74:15,17 76:2<br>76:20<br><b>ways</b> 39:25<br>47:11,15,17<br>52:16<br><b>we've</b> 40:4<br>41:24,24 46:16<br>51:16<br><b>web</b> 35:2 75:21<br><b>welcome</b> 5:14<br>40:11<br><b>whereabouts</b><br>51:14<br><b>white</b> 66:13<br>69:10,12<br><b>widget</b> 17:15<br><b>widgets</b> 18:4<br><b>willing</b> 71:10<br><b>wireless</b> 54:19<br>57:14 58:14,15<br>58:21<br><b>wirelessly</b><br>54:17<br><b>wish</b> 76:15<br><b>withdraw</b><br>14:16<br><b>witness</b> 1:11<br>5:17 6:10 7:18 | 11:4 12:4 13:9<br>16:1,24 23:14<br>25:16 26:7<br>29:3 30:14,24<br>31:4 32:9<br>36:24 37:8<br>39:14 40:7<br>41:4,20 43:1<br>43:14 44:2,8<br>46:22 48:11,25<br>49:15 50:20<br>53:23 56:4<br>57:24 60:8<br>61:22 65:1<br>67:14 70:2<br>71:2 73:16,19<br>75:25 76:8<br>77:18 79:3,4<br>81:6,9,13<br><b>words</b> 19:8<br>44:21<br><b>work</b> 8:9,19<br>19:13,13,15,18<br>19:20 20:4<br>23:2 27:10<br>40:9<br><b>worked</b> 8:21<br>19:23,25<br><b>working</b> 9:20<br>31:13<br><b>works</b> 6:2,3<br>79:19<br><b>world</b> 24:17<br>30:8 74:2 | <b>worth</b> 82:8<br><b>wrap</b> 37:12<br><b>write</b> 17:24<br>18:6,11<br><b>written</b> 41:5<br><b>wrote</b> 17:18<br><b>x</b><br><b>x</b> 3:1,9<br><b>y</b><br><b>yeah</b> 9:22<br>14:20,21 23:6<br>30:25 31:21<br>32:2 34:3<br>38:11 44:3<br>47:14 49:10<br>56:13 58:8<br>63:7 66:2,4,12<br>66:14,19 67:8<br>69:21 70:8<br>74:20 78:24<br><b>year</b> 20:14,25<br><b>years</b> 8:25 9:21<br>9:22 19:11<br>31:8<br><b>young</b> 20:10<br><b>z</b><br><b>zero</b> 23:22<br><b>zoom</b> 1:16 4:21 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at [www.veritext.com](http://www.veritext.com).