Page 1 1 UNITED STATES DISTRICT COURT 2 3 WESTERN DISTRICT OF NEW YORK No. 1:10-cv-00569-RJA 4 ----x 5 PAUL D. CEGLIA, 6 Plaintiff, 7 vs. 8 MARK ELLIOT ZUCKERBERG, 9 Individually, and FACEBOOK, INC., 10 Defendants. 11 -----x 12 13 14 July 18, 2012 15 10:09 a.m. 16 17 Videotaped deposition of BRYAN J. 18 ROSE, held at the offices of Gibson, Dunn 19 & Crutcher LLP, 200 Park Avenue, New York, 20 New York, pursuant to notice, before Cary 21 N. Bigelow, Court Reporter, a Notary Public 22 of the State of New York. 23 24 25

Page 2 1 2 A P P E A R A N C E S: 3 4 BOLAND LEGAL, LLC 5 Attorneys for Plaintiff 1475 Warren Road 6 7 Unit 770724 Lakewood, Ohio 44107 8 BY: DEAN BOLAND, ESQ. 9 10 11 GIBSON, DUNN & CRUTCHER LLP 12 Attorneys for Defendants 13 200 Park Avenue 14 New York, New York 10166-0193 BY: 15 ALEXANDER H. SOUTHWELL, ESQ. 16 THOMAS H. DUPREE JR., ESQ. 17 MATTHEW BENJAMIN, ESQ. 18 AMANDA AYCOCK, ESQ. 19 20 21 ALSO PRESENT: VILAN TRUB, Videographer 22 23 24 25

MR. SOUTHWELL: This is Alexander Southwell for the defendants along with Matthew Benjamin and Tom Dupree and Amanda Aycock.

6 MR. BOLAND: I'm Dean Boland for the 7 plaintiff, Paul Ceglia.

8 MR. ROSE: And I am Bryan Rose from
9 Stroz Friedberg.

10THE VIDEOGRAPHER: This is tape 1.11(The witness was sworn in.)

12 MR. SOUTHWELL: Mr. Boland, before we 13 begin, I just want to put on the record our 14 objection to this videographer. We reserve 15 the right to object to the admissibility of 16 this videotaped deposition. The 17 videographer is not a certified legal 18 videographer, he doesn't appear, as I asked 19 him previously, to have any familiarity or 20 training in the Federal Rules of Civil 21 Procedure, the Federal Rules of Evidence, 22 the New York C.P.L.R., he has not used the 23 required statutory language to begin a video 24 deposition and he clearly is not following 25 any of the best practices set out by the

1

2

3

4

5

Page 4

1 2 videographer associations, so obviously it's 3 your choice in what you want to do, but we reserve the right to object to the 4 5 admissibility of this video deposition. 6 I don't know if you have something else 7 in mind with respect to the videoing of the deposition, like are you planning to post 8 9 them on YouTube like you've done in other 10 cases. 11 MR. BOLAND: I just have plans for him 12 to videotape it, that's all; that's it so 13 far. 14 MR. SOUTHWELL: So you are not planning 15 to post that on YouTube? 16 MR. BOLAND: Not today. 17 MR. SOUTHWELL: Tomorrow? 18 MR. BOLAND: I have no plans for 19 tomorrow to post anything on YouTube. 20 MR. SOUTHWELL: At any point in the 21 future? 22 MR. BOLAND: I have no current plans to 23 post anything on YouTube. 24 MR. SOUTHWELL: Or otherwise make them 25 publicly available?

Page 5 1 2 MR. BOLAND: I have no plans to do 3 that, no. MR. SOUTHWELL: Okay. 4 5 MR. BOLAND: Can you just mark that 6 Exhibit 1, please, using a copy of this as 7 the report. 8 Or do you have one? 9 MR. SOUTHWELL: We have got our copy, 10 but we will hold on to it right now. 11 MR. BOLAND: I will also probably end 12 up using some of these exhibits tomorrow again, I'll just use the same ones instead 13 14 of duplicating them all over again, giving 15 us multiple copies of the same thing. 16 MR. SOUTHWELL: Just to be clear, you 17 are using the filed version? MR. BOLAND: I believe so. 18 It has the 19 file stamp at the top. I don't have another 20 version. MR. SOUTHWELL: Well, you have the 21 22 unredacted version which was provided to 23 you. 24 MR. BOLAND: Oh, yes, correct. No, I'm 25 just using the filed version.

Page 6 1 2 (Exhibit 1, Stroz Friedberg report dated March 26, 2012, marked for 3 identification, as of this date.) 4 5 BRYAN J. R O S E, called as a witness, 6 having been duly sworn by a Notary Public, 7 was examined and testified as follows: EXAMINATION BY 8 9 MR. BOLAND: 10 Good morning, Mr. Rose. Q. 11 Good morning. Α. 12 Before we get started here, did you Q. 13 have a conversation with any of the defense 14 counsel before your testimony today in 15 preparation for your testimony today? 16 Α. I did. 17 And when was that conversation, the Ο. 18 most recent one? 19 The most recent one, we had a brief Α. 20 conversation this morning and then we had a 21 meeting yesterday. 22 Ο. And in that conversation did defense 23 counsel alert you to some of the unique rules 24 that the judge in this case has for people 25 sitting for deposition?

Page 7 1 B. Rose 2 Α. What rules are you referring to? 3 Well, let me just go over them. Ο. The judge in this case has indicated 4 5 that anyone being deposed, if they are confused about a question, should direct a request for 6 7 clarification to the person asking the question, 8 not the lawyers for, you know, the side that you 9 are on. 10 Α. Okay. 11 And that also, when we take breaks Ο. 12 during the deposition that the witness being 13 deposed can't have any conversations with the 14 lawyers from their side of the case about the 15 deposition. 16 I was made aware of that rule, yes. Α. 17 Q. Those are the rules I'm talking about. 18 Α. Yes. 19 So I'm going to assume when I ask you Q. 20 questions today that if you answer that question 21 you understood what I was asking, and if you 22 don't understand it -- well, is that a fair 23 approach? 24 Α. That's a fair approach, and if I don't 25 understand your question I will ask for

Page 8 1 B. Rose 2 clarification. 3 Ο. Very good. Can you look at what's been handed to 4 5 you and marked as Rose Exhibit 1 and just identify that for the record. 6 7 Α. This looks like a filed redacted copy 8 of Stroz Friedberg's report dated March 26, 2012. 9 Ο. And you signed that report? 10 Α. I did. 11 And one other person signed the report Q. 12 as well? 13 Α. That's correct, Mike McGowan from Stroz 14 Friedberg also signed the report. 15 And is all of the information you Q. 16 relied on in preparing that report listed in the 17 report? 18 Α. Yes. 19 And is your CV that's listed in the Q. 20 report current as of today or are there some new 21 additions that might be on a current version? 22 Α. There would be some additional, at 23 least one additional speaking engagement, I 24 believe, but generally it's current. 25 Is there any other training that you've Q.

| | Page 9 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | received since that CV was produced as part of |
| 3 | Exhibit 1 there? |
| 4 | A. No. |
| 5 | Q. In your preparation for today's |
| 6 | deposition were you provided transcripts of any |
| 7 | other witnesses' depositions in this case? |
| 8 | A. No. |
| 9 | Q. Did you discuss the testimony of |
| 10 | Mr. Broom with the defense counsel? |
| 11 | A. No. |
| 12 | Q. Did you discuss the testimony of |
| 13 | Mr. Grant with defense counsel? |
| 14 | A. No. |
| 15 | Q. Can you tell the Court how you were |
| 16 | paid for your work in preparing Exhibit 1? |
| 17 | A. Stroz Friedberg is compensated on an |
| 18 | hourly basis. |
| 19 | Q. And do you know what that rate was that |
| 20 | was charged to defense counsel for the |
| 21 | preparation of that report? |
| 22 | A. The rate would vary depending on the |
| 23 | person working on the report, so my current |
| 24 | billable rate is 650 an hour; Eric Friedberg, who |
| 25 | contributed to the report, would be, I believe, |

Page 10 1 B. Rose 2 950 an hour, and then Mike McGowan and Jason 3 Novak, who are two of our digital forensic examiners who contributed significantly to the 4 5 report, would be -- I'm not sure of their exact current rates, but they'd be somewhere in the 6 7 range of 400 to 500 dollars an hour. 8 And do you know the total that was paid Ο. 9 to Stroz Friedberg by the defendants for the production, for all the work involved in the 10 11 production of that report? 12 Α. I do not. 13 Q. Do you know who at Stroz Friedberg 14 would have the answer to that question? 15 I think the -- I'm not sure anyone Α. 16 would have the answer to that question 17 immediately at hand, you could certainly reconstruct it from a look at the invoices. 18 19 And when was the last time you read Q. 20 Exhibit 1, the report that you produced in this 21 case? 22 Α. Last night. 23 Did you read the entire report last Q. 24 night? 25 I did. Α.

| | Page 11 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. And do you agree with all the |
| 3 | conclusions in the report as of that last reading? |
| 4 | A. I do. |
| 5 | Q. And can you describe for the Court |
| 6 | let me ask you this question: Were you involved |
| 7 | in every page of that, the preparation of every |
| 8 | page of that report or just portions? |
| 9 | You mentioned there were several people |
| 10 | involved. |
| 11 | Did you have a division of labor in |
| 12 | producing that report? |
| 13 | A. It was a collaborative drafting |
| 14 | exercise so, you know, at some point in the |
| 15 | process I would have, yes, would have read, |
| 16 | reviewed and contributed to every section of the |
| 17 | report. |
| 18 | Q. So are there any portions of the report |
| 19 | that you would feel uncomfortable answering |
| 20 | questions about based on that division of labor |
| 21 | that you had? |
| 22 | A. No. |
| 23 | Q. Okay. |
| 24 | Is there any section of the report that |
| 25 | you would identify yourself as sort of the |

Г

| | Page 12 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | primary investigator for? |
| 3 | A. No. |
| 4 | Q. Did anyone there were two people |
| 5 | whose CVs are included with the report; right? |
| 6 | A. I believe there are four CVs included |
| 7 | in the report. |
| 8 | Q. You're right. |
| 9 | There's two people who didn't sign the |
| 10 | report, but their CVs are attached to the report? |
| 11 | A. That's correct. |
| 12 | Q. And how would you describe the work |
| 13 | they did in preparing the report, the folks who |
| 14 | didn't sign it, the two of them? |
| 15 | A. Eric Friedberg is the co-president of |
| 16 | Stroz Friedberg, he was involved in overall |
| 17 | supervision and certainly read drafts of the |
| 18 | report and contributed editorial comments and |
| 19 | provided overall supervision. |
| 20 | Jason Novak, whose CV was also attached, |
| 21 | was one of the forensic examiners and he would |
| 22 | have assisted in the actual analysis of the |
| 23 | Ceglia media. |
| 24 | Q. So did Mr. Friedberg actually do any |
| 25 | analysis, get behind a computer and operate |

Page 13 1 B. Rose 2 software to do analysis? 3 No, neither Mr. Friedberg nor myself Α. would have done any actual analysis. 4 5 Ο. So what role did you do, then, if you 6 didn't do actual analysis? 7 So I am responsible for supervising the Α. work of Mike McGowan and Jason Novak, discussing 8 9 overall strategy with them, reviewing the results 10 of their work and drafting the report. 11 And you and Mr. McGowan signed the Ο. 12 report? 13 Α. Correct. And the other two, Mr. Friedberg and 14 Ο. 15 Mr. Novak, did not? 16 Α. Correct. 17 What's the reason that Mr. Novak, who Ο. 18 did some analysis in this case, did not sign the 19 report? 20 The decision was made that two Α. signatories were sufficient, so it was determined 21 22 that I would sign the report along with 23 Mr. McGowan. 24 Q. Is that the practice of Stroz Friedberg 25 to have individuals who do analysis in cases not

Page 14 1 B. Rose 2 sign reports? 3 I don't think that's the practice of Α. Stroz Friedberg. It's certainly possible that 4 5 when issuing a report not every person who 6 contributed to the report would be a signatory. 7 Now, you are not a certified document Q. 8 examiner, paper document, I'm talking about? 9 Α. I am not. 10 Did you review the paper contract in Q. 11 this case, the two-page paper contract? 12 Α. I've seen it. 13 Q. How do you mean seen it, an actual --14 I have seen copies, I don't think I've Α. 15 seen the original. 16 Did that factor in any part of your Ο. 17 analysis or your conclusions in the report, Exhibit 1? 18 19 No. Α. 20 Now, would you agree with me that the Q. 21 existence of that paper contract, which you've 22 seen copies of, proves that the StreetFax 23 contract that's talked about in your report is 24 not genuine? 25 MR. SOUTHWELL: I am just going to

Page 15 1 B. Rose 2 object to the form. 3 Can you specify what you mean by the paper contract, try to be a little more 4 5 specific about what you are referring to? MR. BOLAND: 6 Sure. 7 Are you aware that a two-page document Q. 8 is being offered by my client as an authentic --9 a two-page paper document is being offered as an 10 authentic contract between him and Mark 11 Zuckerberg? 12 Α. I am. 13 Q. And are you aware that that two-page paper document was evaluated by a bunch of paper 14 15 document experts in about July of 2011? 16 MR. SOUTHWELL: You mean the original 17 of it? MR. BOLAND: 18 Yes. 19 Q. The two-page document was evaluated 20 in July 2011. 21 I'm aware that there was paper analysis Α. 22 done in the case. 23 Q. Okay. 24 So when I'm referring to what I am 25 calling the Facebook contract I'm talking about

Page 16 1 B. Rose 2 that two-page paper document that Mr. Ceglia has 3 attached a copy of to an amended complaint and his claim obviously rests on that being an 4 5 authentic contract between him and Mr. Zuckerberg, 6 okay, that's what I am talking about. 7 Α. Okay. 8 MR. SOUTHWELL: Just to be clear, I 9 don't think this witness has seen the actual 10 original document that's been proffered, so 11 you may want to be clear in your questions. 12 MR. BOLAND: Fair enough. 13 Q. So you haven't seen the original --14 I have not. Α. 15 Q. -- but you've seen copies of that 16 document? 17 Α. Yes. 18 Q. Fair enough. 19 But you're aware that the original 20 exists? 21 I have not seen it. I understand some Α. 22 analysis has been done of it, so I have no reason 23 to think it doesn't exist, yes. 24 Q. Did you read any other expert reports 25 in this case that the plaintiffs have submitted?

| | Page 17 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I read some of the paper analysis but |
| 3 | not the entire report. |
| 4 | Q. Which report are you referring to? |
| 5 | A. I don't recall. |
| 6 | Q. Would you agree with me the existence |
| 7 | of that two-page paper contract, the one we just |
| 8 | referred to, which you read some analysis of, |
| 9 | proves that the StreetFax contract that you |
| 10 | identified in Exhibit 1 can't be genuine? |
| 11 | A. I would not agree with that. I |
| 12 | wouldn't begin to speculate on the paper analysis. |
| 13 | Q. Well, assume for a second a |
| 14 | hypothetical for me. Assume that somewhere down |
| 15 | the line, tomorrow or the next day, the two-page |
| 16 | paper contract that we're talking about is |
| 17 | determined by the Court in this case or a jury to |
| 18 | be an authentic contract between Mark Zuckerberg |
| 19 | and Paul Ceglia, let's assume that. |
| 20 | Would you agree with me, then, if |
| 21 | that's determined to be an authentic contract |
| 22 | between those two parties, that the StreetFax |
| 23 | contract as you identified in Exhibit 1 has to be |
| 24 | not genuine? |
| 25 | MR. SOUTHWELL: Object to the form. |

Page 18 1 B. Rose 2 Q. Would you agree with that? 3 Mr. Boland, my expertise is in digital Α. forensics. I think clearly based on the digital 4 5 forensics we've conducted that the StreetFax 6 contract is the genuine contract in this case and 7 the Work For Hire contract offered by your client 8 is a fraud. Beyond that, you know, I wouldn't 9 speculate on what the paper analysis itself 10 would show. All right. Well, let's try this 11 Ο. 12 hypothetical. 13 Let's say that Mark Zuckerberg is 14 deposed in this case at some point and concedes 15 that the two-page written contract that we're 16 talking about, the Facebook contract, is 17 authentic. 18 Would you then agree that the StreetFax 19 contract that's in your report must not be 20 genuine? 21 Object to the form. MR. SOUTHWELL: 22 Α. I would think if Mr. Zuckerberg in a 23 deposition testified that the Work For Hire 24 contract was an authentic contract, I would think 25 that would mean that the Work For Hire contract

Page 19 1 B. Rose 2 was an authentic contract. 3 Beyond that I think that's what it means, exactly what you say it means, which is 4 5 that if Mr. Zuckerberg says that that is an authentic contract then that is an authentic 6 7 I don't necessarily think that would contract. 8 affect my analysis of the StreetFax contract 9 itself as found on the digital forensics side. 10 Well, let's talk about that. Q. 11 You know there's a conclusion in your 12 report, Exhibit 1, that the StreetFax contract is 13 the authentic contract between the parties; 14 correct? 15 Α. Correct. 16 How did you arrive at -- let me back Ο. 17 up. 18 You are not an expert in digital image 19 analysis; correct? You are not certified or 20 qualified as an expert to analyze digital images 21 to determine if there are authentic or not? 22 Α. What is digital image analysis, what do 23 you mean by that? 24 I mean any electronic file that is in a Q. 25 digital format like TIFF, JPEG, GIF, have you

Page 20 1 B. Rose 2 ever been qualified in court to give an opinion 3 as to whether an image of that format is in fact authentic or altered or a copy or an original, 4 5 things like this? 6 Α. No. 7 Do you have any training, classes Q. 8 you've gone to, about how to evaluate digital 9 images to determine if they've been altered? 10 Α. No. 11 Ο. So it would be fair to say, then, that 12 the StreetFax contract as you identify it in 13 Exhibit 1 is comprised of two TIFF images? 14 Α. Correct. 15 Q. It's not paper we're talking about; 16 right? 17 That's correct, it's an electronic file. Α. 18 Q. And your analysis didn't find any paper 19 predecessor to that, those TIFF images; correct? 20 Α. We were dealing with electronic media, 21 so, yes, that's correct. 22 Q. Okay. 23 And a TIFF image is a digital image, 24 you would agree with me? 25 Α. Correct.

Page 21 1 B. Rose 2 Q. As opposed to a Word document, which is 3 not really typically called by folks in your industry as a digital image? 4 5 Α. That's correct. 6 Ο. Okay. 7 So let's talk about that digital image 8 that is the two TIFF images. 9 Who found those two TIFF images, by 10 the way? MR. SOUTHWELL: Can you just clarify 11 12 what you mean by found? 13 MR. BOLAND: Well, I will ask him if he 14 doesn't understand. 15 MR. SOUTHWELL: Object to the form. 16 MR. BOLAND: Okay. 17 Q. Who was the person who first said to 18 anyone on your team there are two TIFF images 19 which appear to be a contract between the parties 20 that I've just located on some media? Someone 21 must have first said that. 22 Α. I was informed of the discovery of the 23 TIFF images by Mike McGowan. 24 Q. Do you know if he is the one who 25 discovered them?

| | Page 22 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I believe he was. |
| 3 | Q. Okay. |
| 4 | Is he a digital image expert in the way |
| 5 | we defined it earlier in your testimony, do you |
| 6 | know? |
| 7 | A. I don't know. |
| 8 | Q. How long has he worked for Stroz |
| 9 | Friedberg? |
| 10 | A. Mike McGowan has worked he's been |
| 11 | there before I got there, I would say he's worked |
| 12 | there approximately 10 years. |
| 13 | Q. How long have you worked there? |
| 14 | A. In November it will be seven years. |
| 15 | Q. And you don't know if he is a digital |
| 16 | image expert, as you sit here today? |
| 17 | A. He's a digital forensic expert. |
| 18 | I mean, in terms of digital image |
| 19 | expert, Mike has been qualified in many courts to |
| 20 | offer testimony on the authenticity of electronic |
| 21 | documents, including image files, so whether he's |
| 22 | a document image expert, I think that term you're |
| 23 | using a little loosely, I'm not sure exactly what |
| 24 | that means in that context. |
| 25 | Q. Do you know if either one of these two |

| | Page 23 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | TIFF images that we're talking about that |
| 3 | comprise the StreetFax contract are original |
| 4 | images or copies? |
| 5 | A. I don't understand that question. |
| 6 | Q. Do you use a digital camera personally? |
| 7 | A. Yes, occasionally. |
| 8 | Q. Okay. |
| 9 | When you capture a picture with your |
| 10 | digital camera, I'm calling that an original, you |
| 11 | just hit the shutter button and the picture is |
| 12 | captured, it's on the card in the camera, that's |
| 13 | an original, okay, that's the definition I'm |
| 14 | using. |
| 15 | A. Okay. |
| 16 | Q. Have you ever captured digital images |
| 17 | like that and put them on a computer? |
| 18 | A. Yes. |
| 19 | Q. Now, once they're on a computer, for |
| 20 | example, pictures can have problems like red eye. |
| 21 | Are you familiar with that? |
| 22 | A. Yes. |
| 23 | Q. And are you aware that there's photo- |
| 24 | editing tools which allow you to correct red eye |
| 25 | in images? |

Г

| | Page 24 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. Yes. |
| 3 | Q. What I'm calling an original would be |
| 4 | the picture as you captured it and would you |
| 5 | agree with me that if you went in and fixed a |
| 6 | red-eye defect in that image that's no longer an |
| 7 | original, it's been altered? |
| 8 | A. You've changed it, yes. |
| 9 | Q. You've changed it, right, not |
| 10 | significantly, but you've changed it. |
| 11 | So what I'm asking you about is these |
| 12 | TIFF images that are the StreetFax contract, is |
| 13 | it your opinion that those are originals or have |
| 14 | they were they altered before they landed |
| 15 | where they were found on the media where you |
| 16 | found them? |
| 17 | A. I think what we know from the digital |
| 18 | forensics is that they were created on the hard |
| 19 | drive and then e-mailed out within minutes, so I |
| 20 | think from the time they were created on the |
| 21 | computer there would not have been time to alter |
| 22 | them before sending them out. |
| 23 | Q. Fair enough. |
| 24 | How about before when you say |
| 25 | created on a hard drive, it's true that files can |

Page 25 1 B. Rose 2 be created on a hard drive in many ways; right? 3 Α. True. They can come from a floppy disk years 4 Q. 5 ago; correct? 6 Α. Sure. 7 They can be copied off of a CD? Q. 8 Α. They can be, yes. 9 Ο. Copied off of a USB device? 10 Α. Correct. Copied from another hard drive to that 11 0. 12 hard drive? 13 Α. Correct. 14 They could be downloaded from the Ο. 15 Internet? 16 Α. Correct. 17 How did those TIFF files get created on Q. 18 that hard drive? Your report doesn't say. 19 Which one of those methods was the 20 method that created them on that hard drive? 21 They appear to be scans that we believe Α. 22 were then copied to the hard drive, but that's 23 the extent of what we can determine from the 24 digital forensic evidence that's available. 25 So you don't know if they were copied Q.

Page 26 1 B. Rose 2 from any of those various methods I just went 3 through in the previous question? Α. There is no digital forensic evidence 4 5 as to where they were copied from. 6 So I understand your answer that when 0. 7 they landed on the hard drive, from that point to 8 when you say they were e-mailed there wasn't 9 enough time really to alter them, I understand 10 what you're saying there. 11 That's your testimony; correct? 12 Α. Correct. 13 Q. I'm asking you, before they landed on 14 that hard drive were they altered prior to that 15 time? 16 I wouldn't be able to speculate on Α. 17 that. 18 Q. Do you know? 19 Α. I don't know one way or the other. 20 Now, did you read Mr. Broom's report, Q. 21 the forensic expert for the plaintiffs? 22 Α. Some time ago, yes. 23 Do you recall a section of his report Ο. 24 where he talked about the physical size of the 25 two TIFF images that you found?

| | Page 27 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I do not. |
| 3 | Q. Do you know what the physical size is |
| 4 | of those two TIFF images? |
| 5 | A. I do not. |
| 6 | Q. You did mention in your report that the |
| 7 | resolution of those images was poor, you'd agree |
| 8 | with me? |
| 9 | A. I would, yes. |
| 10 | Q. And can you go to the page I'm going |
| 11 | to find it in a moment of your report where |
| 12 | you actually have a graphic of the TIFF images |
| 13 | printed in there? |
| 14 | I'm going to go look for the page |
| 15 | number, I'm going to make it quick, but if you |
| 16 | can just leaf through I think it will stand out. |
| 17 | It's page 90 of 102 I think is where I |
| 18 | am |
| 19 | A. You are referring to the top-level |
| 20 | numbering? |
| 21 | Q. Yes, I am. That's a little confusing |
| 22 | for all of this, you're right. |
| 23 | Yes, page 90 of 102, it's the first |
| 24 | page of Exhibit H. |
| 25 | Do you see that document? |

| | Page 28 |
|----|-------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I do. |
| 3 | Q. Okay. |
| 4 | Does that appear to be or what is |
| 5 | it? Can you describe for the Court what that is |
| 6 | that you put into your report? |
| 7 | A. That appears to be the StreetFax |
| 8 | contract discovered on the Ceglia media. |
| 9 | Q. Is that both pages or just one page? |
| 10 | A. It's just the first page. |
| 11 | Q. And can you read that first page of |
| 12 | that contract, please. |
| 13 | A. I can't based on this, no. |
| 14 | Q. Why can't you read it? |
| 15 | A. It's a low-quality resolution and it's |
| 16 | too small. |
| 17 | Q. Can you read any words on that contract |
| 18 | based on the size that it appeared on the media |
| 19 | where you found it? |
| 20 | MR. SOUTHWELL: Objection. There's no |
| 21 | evidence that that's the size that he found |
| 22 | it. In fact, my version of that has it much |
| 23 | larger, so I'm not sure the version you've |
| 24 | handed the witness, it's very small and I am |
| 25 | not sure if that's a production issue in |

Page 29 1 B. Rose 2 terms of the copying. 3 MR. BOLAND: I can ask him. When you produced your report for 4 Q. 5 filing is the size that you are looking at on page 90 of 102, was that the size that document 6 7 was produced in the report? 8 Α. I did not produce this exhibit, so I 9 don't know. 10 But you reviewed the report before it Q. was filed? 11 12 Α. I did. 13 Q. Do you remember the size of that exhibit? 14 15 I don't. Α. 16 Do you have any reason to doubt that Ο. 17 that's the size of the exhibit as you produced it 18 in the report that was filed? 19 I don't know one way or the other, Α. 20 Mr. Boland. 21 Very well. Ο. 22 Can you read -- and the size that that 23 is, which I understand Mr. Southwell is disputing 24 whether that's actually the size it was when it 25 was filed, I understand that, but the size that

| | Page 30 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | that actually appears there, is that legible, is |
| 3 | any part of that legible? |
| 4 | A. Parts of it. |
| 5 | Q. So can you read the parts and describe |
| 6 | where you're reading from for the Court? |
| 7 | A. I can read the title, which says |
| 8 | StreetFax; I can read section 1, which says |
| 9 | general provisions; I can read certain headings |
| 10 | such as payment terms; that's essentially what's |
| 11 | legible based on this copy which you've handed me. |
| 12 | Q. And is page 2 of the TIFF do you |
| 13 | recall if page 2 of these two TIFF images was |
| 14 | placed into the report that you filed as an |
| 15 | exhibit itself? |
| 16 | A. I do not recall. |
| 17 | Q. And there's no other electronic |
| 18 | evidence that you reviewed, or is there |
| 19 | electronic evidence you reviewed before issuing |
| 20 | this report that is not listed in the report? |
| 21 | A. No. |
| 22 | Q. Is there any electronic evidence that |
| 23 | you reviewed you know, let me back up that |
| 24 | previous question. I used the phrase that you |
| 25 | reviewed. |

Г

Page 31 1 B. Rose 2 Let me ask you, if you know, is there 3 any other electronic evidence that any of the four people involved in this report reviewed 4 5 before issuing the report but it's not listed in 6 the report? 7 MR. SOUTHWELL: Objection to form. 8 I'm not sure what the --9 Ο. Let me break it down. 10 Α. Sure. 11 You supervised the people who Q. 12 contributed to this report; correct? 13 Α. Correct. 14 Ο. Okav. 15 So that's Mr. Novak and Mr. McGowan, 16 you supervised them? 17 Α. Correct. And I'm asking you if you know whether 18 Q. 19 those two individuals or you reviewed or analyzed 20 electronic evidence before you issued this report 21 but didn't list that evidence that you analyzed 22 in the report. 23 MR. SOUTHWELL: Are you talking about 24 any electronic evidence in the world? 25 MR. BOLAND: Related to this case.

Page 32 1 B. Rose 2 MR. SOUTHWELL: Related to the report? 3 MR. BOLAND: Related to this case. Q. Did you analyze any electronic evidence 4 5 related to this case before you issued the report but didn't list that evidence that you reviewed 6 7 in the report? 8 Α. Yes. 9 Ο. Could you list what that is now, 10 please? 11 So we reviewed copies of Mark Α. 12 Zuckerberg's Harvard e-mail, which I don't 13 believe is covered in the report; we also -there was also a review conducted of certain 14 15 assets belonging to Mark Zuckerberg. 16 Can you describe those, please. Ο. 17 They were various computers and other Α. 18 hard drives that belonged to a computer or 19 computers that Mr. Zuckerberg had used 20 historically. 21 When did he use those various other --Ο. 22 do you have a better description of those various 23 other? How many computers are we talking about 24 in that last answer you gave? 25 I don't know exactly. It was, I would Α.

Page 33 1 B. Rose 2 say, somewhere in the neighborhood of 15 to 20, 3 roughly. Ο. Who would know the exact answer of how 4 5 many computers of Mark Zuckerberg's that he historically used that your team analyzed before 6 7 issuing the report? Well, I would think it's possible Mike 8 Α. McGowan would know the exact number from his 9 10 recollection, but as to who could tell you based 11 on recall, we certainly have an inventory of 12 those assets. 13 Q. You do have an inventory? 14 Yes, I do. Α. 15 MR. BOLAND: Mr. Southwell, I will ask 16 you to produce that inventory of those 17 assets that were reviewed. 18 MR. SOUTHWELL: And your basis for that 19 request is what? 20 MR. BOLAND: It's part of the work he 21 did and --22 MR. SOUTHWELL: It's not related to the 23 Court-ordered expedited discovery in the 24 report. 25 Let's talk about those computers you Q.

Page 34 1 B. Rose 2 evaluated. 3 Why did you evaluate those 15 to 20 computers? 4 5 Α. To look for evidence of the 6 authenticity or inauthenticity of the Work For 7 Hire contract. 8 And do you know who did the analysis of Q. 9 those 15 or 20 computers on your team? 10 Α. I do not. 11 Ο. And are there notes or any 12 documentation of what was found during the 13 analysis of those 15 or 20 computers? 14 There was nothing found. Α. 15 That's not my question. Q. 16 Are there notes or documents of what 17 was found, what they --Notes and documents of what was found? 18 Α. 19 Your question is what was found. I'm 20 telling you nothing was found. 21 In terms of whether there are notes or 22 documents about the analysis itself, I don't know 23 one way or the other. 24 Q. Would there typically be notes when a 25 computer expert evaluates a piece of media as to

Page 35 1 B. Rose 2 how they approach that evaluation, for example, 3 search terms they might have used? Α. Typically. 4 5 Ο. And software tools they might have used 6 to carve out data, would an analyst in your 7 company typically list the steps they went 8 through analyzing a piece of media? 9 Α. Typically. 10 And do you know if those records were Q. 11 kept related to these 15 or 20 computers? 12 Α. I don't know one way or the other. 13 Q. And why was the result -- were the 14 results of the analysis, specifically those 15 or 15 20 computers, not discussed in this report? 16 This report is based on the expedited Α. 17 discovery ordered by the Court which covered the Ceglia media and various other information 18 19 contained pursuant to subpoenas such as the 20 e-mails from Sidley & Austin, that's the focus of 21 this report is expedited discovery, so we limited 22 our report to that. 23 The assets themselves were not part of 24 that, were not part of that, were not part of 25 that expedited discovery, so they are not

Page 36 1 B. Rose 2 included in the report. 3 Why did you bother to evaluate them if Ο. they are not part of expedited discovery? 4 5 Α. We evaluated them well before expedited 6 discovery even started. 7 Why? Q. 8 Α. Why? 9 Again, because we're looking for 10 evidence of the authenticity or inauthenticity 11 of the contract. 12 And would you agree with me that the Q. 13 Court-ordered expedited discovery is limited to 14 determining the authenticity or inauthenticity of 15 the contract? 16 I think the expedited discovery's very Α. 17 clear that we are no evaluate the authenticity or inauthenticity of the contract based on our 18 19 analysis of the Ceglia media. 20 I'm just asking you do you agree that Ο. 21 the court order, multiple court orders have 22 focused on determining the authenticity or the 23 inauthenticity of the contract. 24 Α. Yes. 25 Q. Okay.

| | Page 37 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | And you just stated that's one of the |
| 3 | things, the reasons why you looked at these 15 or |
| 4 | 20 computers; correct? |
| 5 | A. I mean, that I think that underlies |
| 6 | all of the work in this case, I mean, that is the |
| 7 | central issue. |
| 8 | Q. And approximately what time did that |
| 9 | what date did that analysis of those 15 or 20 |
| 10 | computers take place? |
| 11 | A. I don't know. That was before my |
| 12 | involvement in the case. |
| 13 | Q. But you supervised the team members who |
| 14 | do it? |
| 15 | A. I did not supervise that portion, no. |
| 16 | Q. Who supervised that portion? |
| 17 | A. I don't know. |
| 18 | Q. And that analysis that we're talking |
| 19 | about, was that done on original media or |
| 20 | forensic copies of original media? |
| 21 | A. It would have been done I don't know |
| 22 | the answer to that question, I would speculate. |
| 23 | Q. Would it be practice of Stroz Friedberg |
| 24 | typically to not do analysis on original media |
| 25 | but to make a forensic image or forensic copy |

Page 38 1 B. Rose 2 first and analyze that? 3 In most circumstances you would prefer Α. to work off a copy, yes, that's correct. 4 5 Ο. And do you know if that was the circumstance for these 15 or 20 computers? 6 7 I've already said I don't. Α. 8 Q. Do you know if -- okay. 9 Do you know where those 15 or 20 10 computers, whether they are originals or forensic 11 images, where they are at today? 12 Α. I do not. 13 Q. Could they be in your locked, secured facility at your offices? Is that possible? 14 15 I do not believe we've maintained Α. 16 copies of those, no. 17 Did you discuss the results of that Ο. evaluation or analysis with defense counsel? 18 19 Α. We did. 20 And when was that discussion? Q. 21 I don't know. Α. 22 Q. Do you know who was present for that 23 discussion? 24 I don't know. Α. There was one discussion 25 and no, I don't know who was present.

Page 39 1 B. Rose 2 Q. But you were there? 3 Was I personally there? Α. Or on the phone, whichever. 4 Q. 5 Α. I don't recall being there, no. And you don't know who from Stroz 6 Ο. 7 Friedberg was there? 8 MR. SOUTHWELL: Objection, asked and 9 answered. 10 Α. I don't. 11 Do you know which defense counsel were Ο. 12 there? 13 Α. I don't. 14 Ο. Okay. 15 Were any reports given to the 16 defendants regarding media that was analyzed but 17 is not listed in the report? 18 MR. SOUTHWELL: Objection. 19 What are you asking? I just want to 20 make sure you are not getting into 21 privileged areas. 22 Q. Did you provide a report? 23 I'm not asking what the report says. 24 Did you provide a report to the 25 defendants regarding the analysis of those 15 or

Page 40 1 B. Rose 2 20 computers? 3 MR. SOUTHWELL: Can you just specify what you mean by report? 4 5 Anything from an e-mail to a formal Ο. 6 report like as in Exhibit 1, any communication 7 whatsoever regarding the results of that 8 analysis, did you report that to the defendants? I don't know. 9 Α. 10 Would there be records at the office Ο. 11 that would reflect that if it happened? 12 Α. Yes. 13 Q. And who would be the person at Stroz 14 Friedberg who would know where those records are? 15 It would be whoever made the report. Α. 16 Now, is there any other electronic Ο. 17 evidence that you or your team reviewed after issuing the report that's Exhibit 1? 18 19 Α. Related to this case? 20 Q. Yes. 21 Α. No. 22 Q. Did you or anyone -- well, first of 23 all, people from Stroz Friedberg have written 24 various articles in professional publications 25 about computer forensics; fair to say?

| | Page 41 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | A. That's fair to say, yes. |
| 3 | Q. Have you written articles that have |
| 4 | been published in computer forensics publications? |
| 5 | A. No. |
| 6 | Q. Okay. |
| 7 | Would you agree with this general |
| 8 | statement that it's important for a computer |
| 9 | forensics expert to review all the available |
| 10 | evidence before producing a report? |
| 11 | A. I would agree that it's important for a |
| 12 | digital forensic expert to have examined all of |
| 13 | the relevant data and certainly, you know, you |
| 14 | are sometimes dealing with accessibility issues |
| 15 | here, so I think there are times when, you know, |
| 16 | I don't know what available means, there are |
| 17 | certainly things which might, you know, if you |
| 18 | move mountains, be available, but are not |
| 19 | certainly worth it in every case, but as a |
| 20 | general matter all of the reasonably accessible |
| 21 | data should be reviewed. |
| 22 | Q. And early on in well, I don't know |
| 23 | if it was early on, I shouldn't say that, but |
| 24 | your team at least twice either obtained or |
| 25 | received copies of Mr. Zuckerberg's Harvard |

Page 42 1 B. Rose 2 e-mail account; fair to say? 3 We have at various times either Α. collected or received copies of Mr. Zuckerberg's 4 5 Harvard e-mail account, yes. And the record reflects at least two 6 Ο. 7 times that occurred; true? 8 Α. Yes. 9 Ο. Are there more than two? 10 I believe that we received three Α. 11 separate deliveries, so -- and let me just go 12 through them so I can be clear. 13 We collected Mr. Zuckerberg's Harvard 14 e-mail on April 15th of 2011. We also received a 15 copy of Mr. Zuckerberg's e-mail from Harvard that 16 was made in or that was from October of 2010, I 17 believe that was the second delivery received, and then we received a third delivery from 18 19 Harvard which included a November 2003 copy of 20 his data, a February 12, 2012 copy of his data, 21 and an additional copy of the October 2010 data, 22 and by additional copy I mean it's a duplicate. 23 And you're aware that the defendants Ο. 24 had a duty under expedited discovery to produce 25 e-mails from Mark Zuckerberg's Harvard e-mail

Page 43 1 B. Rose 2 account; correct? 3 MR. SOUTHWELL: Objection. Α. I don't know what their obligations 4 5 were. 6 Ο. Were you or your team involved in 7 helping the defendants produce a set of 8 Mr. Zuckerberg's e-mails as part of expedited 9 discovery? 10 Α. Yes. 11 And do you know from which one of these Ο. 12 three separate deliveries that production came? 13 Α. I do not. 14 Now, Stroz Friedberg, you or no one Ο. 15 from your team analyzed the backup copies of 16 Harvard's e-mail servers; is that true? 17 Α. What do you mean by analyze their 18 backup copies? 19 Q. Let me ask you a question. 20 Do most large organizations like a 21 university maintain backup copies of e-mail, 22 their e-mail servers, is that --23 Most large institutions make backup Α. 24 copies for disaster recovery purposes. Whether 25 they maintain them or not or how long they

| | Page 44 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | maintain them varies greatly from organization to |
| 3 | organization. |
| 4 | Q. Do you know if Harvard in 2003-2004 |
| 5 | made backup copies of their e-mail server? |
| 6 | A. I believe they did, yes. |
| 7 | Q. Did you obtain a forensic image of any |
| 8 | backup copies of Mr. Zuckerberg's e-mail account |
| 9 | from 2003 or 2004? |
| 10 | MR. SOUTHWELL: Object to the form, |
| 11 | just being clear about what backup copies of |
| 12 | Mr. Zuckerberg's e-mail account means. |
| 13 | Q. I just asked you and you confirmed that |
| 14 | Harvard made backup copies of their e-mail server |
| 15 | in 2003 and 2004; correct? |
| 16 | A. I said I believe they did. |
| 17 | Q. Do you have any reason to believe that |
| 18 | that excluded Mr. Zuckerberg's e-mail account? |
| 19 | A. No. |
| 20 | Q. I'm asking about those backup copies. |
| 21 | Do you know if those were on tape or on |
| 22 | disc or what form those backups were in? |
| 23 | A. I don't know whether they would retain |
| 24 | them from then. |
| 25 | Q. Did you ask Harvard about whether they |

Page 45 1 B. Rose 2 had backup copies from 2003 and 2004 that were 3 accessible? Α. We asked Harvard to identify all 4 historical copies of Mr. Zuckerberg's e-mail, 5 whether that's on a backup or anywhere else. 6 7 Did they produce forensic copies from a Q. 8 backup source to you? 9 Α. Yes. I've just delineated, I think, 10 the copies they produced for us, so we collected 11 the April 15, 2011 e-mail, they produced data 12 from October 2010, February 2012, and November 13 2003; they said that and they indicated that 14 after a thorough search that was all the copies 15 of this historical e-mail they could identify. 16 Let me just clarify that for my Ο. 17 understanding. The first collection -- I'll use your 18 19 term -- of April 15, 2011, was that from their 20 actual e-mail server or --21 Α. Correct. 22 Q. So it was not from a backup copy? 23 That's correct. Α. 24 Q. The copy that they -- that you received 25 from them which was you received in October 2010,

Page 46 1 B. Rose 2 was that from their server or from a backup? 3 I don't know the source of that. Α. Very well. 4 Q. 5 And then the third delivery from 6 Harvard, was that from their actual server, their 7 live server is the term I'm going to use, their 8 live server, e-mail server, or from a backup 9 copy? 10 Well, from November 2003 it would Α. 11 necessarily not be from their live server, and 12 this is a copy of the e-mail box as it existed in 13 November 2003. 14 So from a backup you would assume? Ο. I don't know whether it was a backup, 15 Α. 16 whether they made a copy for some other reason. 17 I know they had a historical copy of his e-mail, 18 I don't know why it was made or from what the 19 source of it was. 20 Obviously, once you get past the 21 collection of a server on April 15th everything 22 else they provide us historically is a historical 23 copy, I don't know the source. 24 Q. Now, since we are on that topic, those, 25 at least between two of those copies, you

Page 47 1 B. Rose 2 offered -- well, you've offered many declarations 3 in this case about different topics? Α. Correct. 4 And one of them, if you recall, that 5 Ο. you offered a declaration about was some 6 7 differences that arose between the October 2010 8 e-mail collection and the April 2011. 9 Do you recall that declaration? 10 Α. I do. 11 And correct me if I'm wrong, but there Ο. 12 were two main explanations you provided in that 13 declaration as to why what appeared to be missing e-mails actually weren't missing e-mails at all. 14 15 Do you remember providing explanation 16 for that? 17 MR. SOUTHWELL: Object to the form. 18 Q. Do you remember providing an 19 explanation for that? 20 Α. I do. 21 And you indicated in that declaration Ο. 22 that the cause of that apparent deleted e-mails, 23 which wasn't deleted e-mails at all, were minor 24 formatting differences; do you remember saying 25 that?

Page 48 1 B. Rose 2 Α. Do you have a copy of the declaration? 3 Hold on a second. I may have a copy Ο. here. 4 5 You know what, I don't have it handy, 6 Mr. Rose, so if your memory doesn't serve you, we 7 will go from there. 8 Α. I do remember there being minor 9 formatting differences which were part of the 10 discrepancy. 11 And do you recall using the term, and 0. 12 in addition to minor formatting differences 13 technical issues arose, if you remember using 14 that in your declaration? 15 Α. I don't recall that specific language. 16 And is it your opinion that some --Ο. 17 that Stroz Friedberg somehow was engaged in some fraud which caused the minor formatting 18 19 differences in those e-mails? 20 Absolutely not. Α. 21 What caused the differences was for 22 some in the collection process, as I recall, 23 there were two issues, one, some minor formatting 24 inconsistencies, for instance, and not even 25 apparent on the surface of the document, if you

Page 49 1 B. Rose 2 look at it, for instance, it's an extra white 3 space in the subject line, when we compare the two e-mails they were identical except for that 4 5 minor formatting difference. I believe the technical issue was one 6 7 e-mail that got split into two different e-mails, 8 so of course it doesn't dedupe out, but I can't 9 imagine how you could equate that to fraud. 10 How did those minor formatting Ο. 11 differences occur? 12 Α. I don't know. 13 Q. Was it done manually by anyone at Stroz 14 Friedberg? 15 Α. No. 16 Was it done even in an automated Ο. 17 fashion, intentionally by someone at Stroz 18 Friedberg inserting those formatting differences? 19 Α. Why would anyone at Stroz Friedberg 20 insert formatting differences into an e-mail? 21 Well, the rules here are that I get to Ο. 22 ask the questions. 23 Was it done automatically by someone at 24 Stroz Friedberg intentionally trying to create 25 formatting differences?

Page 50 1 B. Rose 2 Α. Absolutely not. 3 So those formatting differences do not Ο. indicate fraud by Stroz Friedberg; fair to say? 4 5 Α. Mr. Boland, that's an outrageous accusation, that anyone at Stroz Friedberg would 6 7 insert a white space in an e-mail so that it 8 would not dedupe out against a prior collection of e-mail. 9 10 I'm just asking you if you agree with Ο. the statement it's not fair to accuse Stroz 11 12 Friedberg of committing fraud because minor 13 formatting differences appear in these e-mails. 14 Is that fair to say? 15 I think Stroz Friedberg would have Α. 16 absolutely no motivation to insert an extra white space into a subject line. 17 18 Q. Well, my question is not about 19 motivation, my question is, is it fair to say 20 that it is not proof of Stroz Friedberg 21 committing fraud because minor formatting 22 differences occurred in these e-mails. 23 I think given the circumstances you're Α. 24 considering, which is that Stroz Friedberg is 25 engaged in a process of collecting e-mail and

Page 51

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | deduping out against a prior set, so having an |
| 3 | aggregate set of data for review, if you're |
| 4 | talking about those circumstances, the idea that |
| 5 | an extra white space would be inserted so that |
| 6 | those documents in fact don't dedupe out, the |
| 7 | only effect of that being that there are |
| 8 | additional documents which Gibson, Dunn or Stroz |
| 9 | Friedberg then has to review, the idea that that, |
| 10 | there's any motivation for fraud there, the idea, |
| 11 | given those circumstances, that that would be |
| 12 | fraudulent conduct, is outrageous. |
| 13 | Q. So is the answer to my question yes, |
| 14 | that it is not evidence I'll ask it again. |
| 15 | It's not because the paragraph you just gave |
| 16 | me did not answer the question, sir. |
| 17 | Would you agree with me that it is not |
| 18 | evidence of fraud by Stroz Friedberg merely |
| 19 | because in your possession somehow, we don't know |
| 20 | how, minor formatting differences appeared in |
| 21 | these e-mails? |
| 22 | MR. SOUTHWELL: Objection, asked and |
| 23 | answered, he answered the question. |
| 24 | A. What I'm saying is given the |
| 25 | circumstances it's clearly not fraud. |
| | |

| | Page 52 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. Did you or anyone on your team review |
| 3 | any electronic evidence related to any prior |
| 4 | cases that Mr. Zuckerberg has been involved in as |
| 5 | a defendant or as a party? |
| 6 | A. Again, we reviewed the assets, |
| 7 | Mr. Zuckerberg's assets, I believe those did |
| 8 | include some forensic images that have been made |
| 9 | in prior litigations. |
| 10 | Q. And what prior litigation were those |
| 11 | images involved in? |
| 12 | A. I don't recall. |
| 13 | Q. Are you familiar with the case against |
| 14 | Mr. Zuckerberg involving an organization called |
| 15 | ConnectU? |
| 16 | A. I recognize the name, yes. |
| 17 | Q. Are you familiar with litigation |
| 18 | involving two twins from Harvard named the |
| 19 | Winklevoss twins? |
| 20 | A. I am familiar with it, yes. |
| 21 | Q. Do you know if you or anyone on your |
| 22 | team reviewed evidence from the ConnectU |
| 23 | Winklevoss case? |
| 24 | A. It is my recollection that some of the |
| 25 | assets were related to the ConnectU case. |

| | Page 53 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. Do you know if you reviewed all of the |
| 3 | electronic assets related to the ConnectU case? |
| 4 | A. I don't. |
| 5 | Q. Did you ask to see all those assets? |
| 6 | A. We asked to see all of the historical |
| 7 | Mark Zuckerberg assets. |
| 8 | Q. And who did you ask that question to? |
| 9 | A. Well, I mean, we were in consultation |
| 10 | with Gibson, Dunn and attorneys from McManis |
| 11 | Faulkner, Mr. Zuckerberg's personal attorneys. |
| 12 | Q. Did you or anyone from your team review |
| 13 | any electronic evidence from a case involving |
| 14 | Eduardo Saverin? |
| 15 | A. I don't know. |
| 16 | Q. Does that name ring a bell? |
| 17 | A. It does. |
| 18 | Q. Are you aware that he and |
| 19 | Mr. Zuckerberg were involved in litigation years |
| 20 | ago regarding Facebook? |
| 21 | A. I've seen "The Social Network," but |
| 22 | beyond that |
| 23 | Q. Did you ask to see any evidence from |
| 24 | that case, any electronic evidence from that |
| 25 | case? |

Г

| | Page 54 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. We didn't have discussions about |
| 3 | electronic assets for specific cases. What we |
| 4 | were provided was our understanding was the |
| 5 | existing historical assets for Mr. Zuckerberg. |
| 6 | Q. You know who Orin Snyder is; right? |
| 7 | A. I do. |
| 8 | Q. Have you met with him before? |
| 9 | A. I have. |
| 10 | Q. Pardon me? |
| 11 | A. I have, yes. |
| 12 | Q. Have you met with him about this, in |
| 13 | preparation for your deposition today? |
| 14 | A. No. |
| 15 | Q. Would you agree with the statement that |
| 16 | Mr. Snyder made about this issue of the minor |
| 17 | formatting differences we were talking about with |
| 18 | the Harvard e-mails, can you tell me if you agree |
| 19 | with this statement? |
| 20 | MR. SOUTHWELL: Can you just be clear |
| 21 | what you are referring to? |
| 22 | MR. BOLAND: A statement from |
| 23 | Mr. Snyder December 13, 2011, during the |
| 24 | oral argument we had that day. |
| 25 | Q. Mr. Snyder said "It's possible the |

Page 55 1 B. Rose 2 differences in storage format or the conversion 3 process can create minor format discrepancies between two copies of the same e-mail." 4 5 Do you agree with that statement? 6 Α. Can I read that, do you mind? 7 Sure. Page 163 of that, and I started Q. 8 reading "It's possible." 9 Do you see where I am pointing there, 10 line 17?11 MR. SOUTHWELL: Can we see the page 12 before? This relates to the issue you are 13 asking about? 14 It does, I'll represent to MR. BOLAND: 15 you that it does. 16 You can see the page before, that's 17 fine. It relates to an argument -- well, I will let the witness read that. 18 19 Just tell me if you agree with that Q. 20 statement he makes about minor formatting 21 differences. 22 Α. I mean, as a general matter, I would 23 agree with that. 24 Q. Very well. 25 So the accidental or unintentional

Page 56 1 B. Rose insertion of a formatting difference into a 2 3 document, you would agree with me, is not by itself proof of fraud? 4 5 Α. Accidental -- so accidental and unintentional insertion? 6 7 Correct. Ο. I would say since fraud involves 8 Α. 9 intent, I would say by definition that would not 10 be fraud. 11 Ο. And we just went over that such 12 formatting differences can be caused 13 unintentionally as Stroz Friedberg unintentionally caused them somehow? 14 15 MR. SOUTHWELL: Objection to the form. 16 What are you referring to as such 17 formatting differences? Formatting differences between the sets 18 Q. 19 of Harvard e-mails that we talked about were 20 caused unintentionally; right? 21 If you are doing forensic collection Α. 22 and you're collecting e-mail, it is possible in 23 the conversion process or based on storage 24 formats for there to be formatting differences 25 introduced.

Page 57 1 B. Rose 2 Q. Now, is that the only way in the whole 3 world of computers is just forensics where these formatting differences can occur? 4 5 Α. I don't understand that question. 6 Ο. People trading files on CDs or 7 e-mailing files to each other, can formatting 8 differences occur in that process? 9 Α. Can you be specific? That seems very 10 hypothetical. You have a Microsoft Word document and 11 Ο. 12 you send it to me and I open it in Microsoft 13 Word, can formatting differences occur depending 14 on how you have Microsoft Word set and how I have 15 it set on my computer? 16 I think in general that should not Α. 17 occur. 18 Q. My question is not whether it should 19 not occur. 20 Does that occur for people, do they 21 get --22 Α. I am not aware of that occurring. 23 You have never received a document that Ο. 24 somehow the formatting got altered from what the 25 recipient created?

Page 58 1 B. Rose 2 MR. SOUTHWELL: Objection to form. 3 Ο. Has that ever happened? Α. I don't know, Mr. Boland. 4 5 Fair enough. Ο. Can you look at Exhibit 1, page 24, we 6 7 are in the upper -- I think we are in the upper 8 corner still of those page numbers. 9 Α. Okay. 10 So fair to say this page is generally Q. 11 some discussion about the Sidley Austin server 12 and there's some header information in the middle 13 of the page; correct? 14 I would say it's a discussion of the Α. 15 StreetFax e-mails found at Sidley & Austin and 16 particularly the Internet header information 17 appended to those e-mails. And your report notes in footnote 9 --18 Q. 19 I mean, there's a whole paragraph there, but 20 there is a note there that the server --21 MR. BOLAND: Scratch that. 22 Q. Right at the bottom, the last sentence 23 of that footnote, the time zone setting was 24 incorrectly set to Eastern time. 25 Do you see that sentence, the last half

Page 59 1 B. Rose 2 of the last sentence of footnote 9? 3 Α. I do see that sentence. And that's referring to the Sidley 4 Q. 5 Austin e-mail server; correct? 6 Α. It is referring to one of the 7 intermediary Sidley & Austin e-mail servers, 8 specifically Mail 02. 9 Ο. Did your computer forensic analysis 10 reveal any fraud regarding Sidley Austin and e-mails? 11 12 Α. No. 13 Q. And did your forensic analysis reveal 14 any fraud by Mr. Zuckerberg in relation to 15 e-mails from his Harvard e-mail account? 16 Α. No. 17 Now, on that same page, the time stamps Q. regarding the sent items from Mr. Ceglia's 18 19 parents' computer, this Kole e-mail, and the 20 received time of that e-mail on the Sidley Austin 21 server, this is my calculation, but they differ 22 by more than 144 seconds; is that a fair bit of 23 math? 24 MR. SOUTHWELL: What are you referring 25 to? I'm sorry.

Page 60 1 B. Rose 2 Q. The time stamps on the sent item from 3 Mr. Ceglia's parents' computer of the Kole e-mail and the time it was received by Sidley Austin, 4 5 they differ by about a little over two minutes. 6 Α. There are two e-mails, so can we 7 clarify which one we're talking about? Let's start with the first one. 8 Q. 9 Α. Okay. 10 MR. SOUTHWELL: By the first one, are 11 you referring to page 24 of the report? 12 Α. Or page 23. 13 Q. Let's look at where you have detailed 14 when those e-mails were sent. 15 Do you see on page -- yes, go back to 16 page 23 under the number 1. 17 There's an e-mail sent at 10:37 a.m. 18 Do you see that reference? 19 Α. Yes. 20 So there were two StreetFax e-mails Q. 21 that you talk about being sent here on this page? 22 Α. Yes. 23 The first one sent at 10:37 a.m. Ο. 24 Eastern Standard Time. 25 Α. Yes.

| | Page 61 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. And then you talk about it being |
| 3 | received on the top of page 24, it's received by |
| 4 | the Sidley Austin server at 9:38 Central time. |
| 5 | A. Correct. |
| 6 | Q. That's a difference of a minute, |
| 7 | roughly, or a little under a minute; is that fair |
| 8 | to say? |
| 9 | A. That is a difference of 51 seconds. |
| 10 | Q. And in the second e-mail is in the |
| 11 | middle of page 24, it's sent at 10:39; right? |
| 12 | A. Correct. |
| 13 | Q. And it's received, at the bottom of 24 |
| 14 | it's received by the Sidley Austin server at 9:41. |
| 15 | A. Correct. |
| 16 | Q. So that's a little more than a minute, |
| 17 | a minute and a half, roughly; correct? |
| 18 | A. Let me just do the math. |
| 19 | Yeah, that's roughly correct. |
| 20 | Q. Now, on the computer where the Kole |
| 21 | e-mail was found your report identifies it as |
| 22 | part of the Ceglia media; fair to say? |
| 23 | A. Right. |
| 24 | Q. And do you know who was the actual |
| 25 | owner and user of that computer? Was it Paul |
| | |

Г

Page 62 1 B. Rose 2 Ceglia? 3 Α. I don't know. Do you know if he ever used that 4 Q. 5 computer? I don't know one way or the other. 6 Α. 7 And these e-mails, these two TIFF Q. 8 images that were sent by these two e-mails, you 9 would agree with the notion that from a computer 10 forensic standpoint you can't -- no one can say 11 whose butt was actually in the seat at that 12 computer? 13 Α. So -- and let me maybe amend my last 14 answer a little bit. 15 From a forensic standpoint it is 16 difficult from the forensics to tell who's 17 actually sitting in the seat, so what you have to look for is other contextual evidence. 18 19 So given the fact that what we have in 20 this case is two e-mails from a computer 21 belonging to -- used by someone at the Ceglias', 22 assuming that, you have one of the e-mails that's 23 signed by Paul that sets forth a phone number 24 that is sent to his attorney at Sidley & Austin, 25 Jim Kole.

Page 63

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | From those circumstances I would say |
| 3 | that, yes, at least for the purpose of sending |
| 4 | those StreetFax e-mails, Mr. Ceglia, Paul Ceglia |
| 5 | specifically, did use that computer. |
| 6 | Q. Now, in sending that e-mail so it's |
| 7 | your position that the forensic evidence and |
| 8 | if I'm using the wrong word correct me proves |
| 9 | that Paul Ceglia was sitting at the computer that |
| 10 | sent those e-mails? |
| 11 | A. I think the forensic evidence is yes, |
| 12 | that Mr that the evidence, the forensic |
| 13 | evidence and I would say the other evidence, for |
| 14 | instance, I don't know whether I would |
| 15 | characterize the fact that Paul signed the e-mail |
| 16 | as forensic evidence, but it's certainly evidence |
| 17 | obtained in a forensic analysis, yes. I would |
| 18 | say that it shows that Paul Ceglia sent those |
| 19 | e-mails to Mr. Kole. |
| 20 | Q. Now, when you say the word "signed the |
| 21 | e-mail" you're talking about his name was typed |
| 22 | at the bottom of the e-mail? |
| 23 | A. Correct. |
| 24 | Q. Not a handwritten signature? |
| 25 | A. Correct. |
| | |

VERITEXT REPORTING COMPANY www.veritext.com

| | Page 64 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. And not even a scanned image of a |
| 3 | handwritten signature? |
| 4 | A. That's correct. |
| 5 | Q. And anyone can type those four letters |
| 6 | that are his name; right? |
| 7 | A. Anyone could, yes. |
| 8 | Q. Isn't it true that a person could be |
| 9 | sitting at the computer, as you are positing |
| 10 | here, and send that e-mail; true? |
| 11 | A. Could you repeat that? |
| 12 | Q. As you said, a person, one of the ways |
| 13 | this e-mail could have been sent is Paul Ceglia |
| 14 | sitting at the computer typing? |
| 15 | A. Correct. |
| 16 | Q. It could also have been sent by another |
| 17 | person sitting at the computer typing everything |
| 18 | that was in that e-mail; true? |
| 19 | A. Hypothetically true. I don't think in |
| 20 | the case the evidence supports that, no. |
| 21 | Q. And are there ways there are ways |
| 22 | for people to get, for example, GoToMyPC is a |
| 23 | program you are familiar with, a service you are |
| 24 | familiar with? |
| 25 | A. Yes. |

| | Page 65 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. So a person could be in one state and |
| 3 | use GoToMyPC and get remote access to their |
| 4 | computer; right? |
| 5 | A. You can get remote access, yes. |
| 6 | Q. And using that remote access you can |
| 7 | operate that computer as if you're sitting in |
| 8 | front of it; true? |
| 9 | A. If you yes, that's true. |
| 10 | Q. Including you can send an e-mail from |
| 11 | the e-mail program on that computer while you are |
| 12 | in another state? |
| 13 | A. Correct. |
| 14 | Q. Did your forensic evidence indicate |
| 15 | whether remote access to this computer by |
| 16 | GoToMyPC happened with Mr. Ceglia? |
| 17 | A. I think remote access is unlikely given |
| 18 | the fact that the scanned documents were copied |
| 19 | to the actual physical hard drive, so I think |
| 20 | what we are looking at is physical access to the |
| 21 | machine, that would be our conclusion from the |
| 22 | forensics. |
| 23 | Q. Well, let's talk about that. |
| 24 | You testified just earlier that there's |
| 25 | a variety of ways that those TIFF images could |
| | |

Г

Page 66 1 B. Rose 2 have been created on that hard drive. 3 Do you remember testifying about that? 4 MR. SOUTHWELL: Objection, 5 mischaracterizes the testimony. Do you remember testifying that there 6 Ο. 7 are a variety of ways that those TIFF images could have been created on to that hard drive? 8 9 Α. I believe your question was a general 10 question about the way in which documents can in fact be created on hard drive, if I'm recalling 11 12 that correctly. 13 Q. Well, let me clarify that, then. 14 You agree with me that there's multiple 15 ways that a file in a general sense can be 16 created on a hard drive; right? 17 Α. Correct. And I asked you this before, they can 18 Q. 19 be copied from a CD? 20 You have to --21 Α. Yes. 22 Q. Floppy disk in the old days? 23 Yes. Α. 24 USB drive? Q. 25 Α. Yes.

Page 67 1 B. Rose Another hard drive? 2 Q. 3 Α. Yes. And the Internet? 4 Q. 5 Α. Yes. 6 Which one of those ways -- I asked you 0. 7 before, I'm pretty clear on this, but I will do 8 it again. 9 Which one of those ways was the way 10 these two TIFF images got on to that hard drive 11 where you found them? 12 Α. I don't know. 13 Q. You don't know. 14 So that necessarily means, then, it's 15 correct that a person, Paul Ceglia or whoever 16 using GoToMyPC, for example, can remotely access 17 this computer where you found these TIFF images 18 and put them there; true? 19 I don't know specifically how Α. 20 GoToMeeting operates. I mean, for instance, 21 there are remote access clients where I can go on 22 and get documents, for instance, on a desktop, 23 but I can't actually save things to my physical 24 hard drive, so I think it would depend on how 25 that actually operated.

Page 68 1 B. Rose 2 Q. Do you know if -- and just to correct 3 you, I think you just misspoke, I'm not talking about GoToMeeting, I'm talking about GoToMyPC. 4 5 Α. Oh, I'm sorry, yes. 6 Ο. Do you know if GoToMyPC does or does 7 not have that function? I don't. 8 Α. 9 Ο. If the product like GoToMyPC allows remote access and has that function allowing you 10 11 to save files to that remotely accessed computer, 12 that's one way Mr. Ceglia or whoever could have 13 put those TIFF images on that computer; would you 14 agree with me? 15 It's possible that's a way Mr. Ceglia Α. 16 could have saved those to that computer, yes. 17 Is GoToMyPC the only way to get remote Ο. access to a computer? 18 19 Α. No. 20 What are the other ways, if you could Q. 21 list them, please? 22 Α. I couldn't list all of them. 23 List as many as you can, if you would. Ο. 24 Α. I mean, there are various clients like 25 that that allow remote access, there is, you

Page 69 1 B. Rose 2 know, VPN access to a computer, there -- you 3 know, there are certainly other ways, I mean, there are really innumerable ways to gain remote 4 5 access. 6 Ο. Now, the ways you just went through, 7 VPN and other clients like that, those aren't 8 hacking tools, are they? They're not, they're generally software 9 Α. 10 actually installed on the computer. 11 In your experience as a computer Ο. 12 forensics expert, you know that individuals 13 around the world have the ability to remotely 14 access other people's computers without their 15 authorization? 16 There are people who do that. I mean, Α. 17 obviously that would require -- you know, that would require the installation of some kind of 18 19 software, you know, malware program, depending on 20 how you want to characterize it, that would allow 21 for both that remote access and also the kind of 22 control over the computer itself that you would 23 need to perform those functions, but assuming 24 that that software, malware is installed on the 25 computer, sure, that's a possibility.

| | Page 70 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. And your report doesn't discuss any |
| 3 | malware on any of the media? |
| 4 | A. No. |
| 5 | Frankly, I regard the malware |
| 6 | explanation as completely implausible in this |
| 7 | case. |
| 8 | Q. Well, my question is your report |
| 9 | doesn't indicate well, let me ask you that |
| 10 | question. |
| 11 | Before you produced that report did you |
| 12 | scan any of the media for malware? |
| 13 | A. We did not. |
| 14 | Q. Is that standard practice for your firm |
| 15 | to not scan media for malware? |
| 16 | A. That is not a standard practice, no. |
| 17 | Q. Have you had a chance to read |
| 18 | plaintiff's expert's report in this case? |
| 19 | A. I have. |
| 20 | MR. SOUTHWELL: Can you just clarify |
| 21 | which one? |
| 22 | MR. BOLAND: I'm sorry, Mr. Broom. |
| 23 | Q. And you are aware, then, from reviewing |
| 24 | that, that he did scan the media in this case for |
| 25 | malware? |

| | Page 71 |
|----|-------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I am aware of that, yes. |
| 3 | Q. Are you aware that he found malware? |
| 4 | A. Iam. |
| 5 | Q. And he found something called a rootkit |
| 6 | as well? |
| 7 | A. I don't |
| 8 | MR. SOUTHWELL: Objection to the |
| 9 | specifics of what was found or where. |
| 10 | A. I don't recall that specifically, no. |
| 11 | Q. You don't recall that from reading his |
| 12 | report? |
| 13 | A. No. |
| 14 | Q. But generally you recall he found |
| 15 | malware? |
| 16 | A. Correct. |
| 17 | Q. What types of malware would allow |
| 18 | someone to have remote access to a computer, if |
| 19 | you know? |
| 20 | A. I wouldn't even know how to answer that |
| 21 | question, I mean, there are all kinds of |
| 22 | variations of malware that would permit remote |
| 23 | access. |
| 24 | Q. Can you list a few of them? |
| 25 | A. No. |

Page 72

| 1 | B. Rose |
|----|----------------------------------------------------|
| 2 | Q. Do you know any of them that allow that? |
| 3 | A. I mean, there are kinds, but again, |
| 4 | you'd be talking about specific pieces of |
| 5 | malware, right, so there are literally tens of |
| 6 | thousands of these things cataloged, so I think |
| 7 | any analysis of malware would have to start with |
| 8 | what is not a general analysis, but what is |
| 9 | the specific malware found on the computer and |
| 10 | what capabilities does that malware provide, so, |
| 11 | for instance, you know, what is notably lacking |
| 12 | from Mr. Broom's report is any analysis of how |
| 13 | any of the malware he actually found would, A, |
| 14 | existed in 2003 and, B, would have provided the |
| 15 | kind of control over the computer that you would |
| 16 | need for remote access to be an explanation for |
| 17 | this. |
| 18 | Q. Which ones did you or your team |
| 19 | evaluate the malware in Mr. Broom's report to |
| 20 | determine if it existed in 2004? |
| 21 | A. We researched that malware to both |
| 22 | determine whether any of those pieces of malware |
| 23 | existed in 2003 and had the capabilities that |
| 24 | would provide the kind of remote access necessary. |
| 25 | Q. And what was your evaluation? |

Page 73 1 B. Rose 2 Α. That none of those pieces of malware 3 would have provided the ability to do that. Now, do people, hackers, in general, 4 Q. 5 who gain remote access to a computer, sometimes they leave evidence behind of that intrusion; 6 7 fair to say? 8 Α. Yes. 9 Ο. Are there occasions where they do not 10 leave evidence behind that can be detected of 11 that intrusion? 12 It's hypothetically possible. I mean, Α. 13 generally what you would see is either evidence 14 of the access or evidence of the cleanup, but 15 it's certainly possible to have as part of the 16 malware essentially a cleanup of the malware on 17 the machine. 18 Q. And you don't know, from your 19 evaluation of Paul Ceglia's parents' computer 20 where the Kole e-mail was found, what malware was 21 on that computer in 2004? 22 MR. SOUTHWELL: Object to the form. 23 True? Q. 24 Α. No. 25 You don't know if there was any malware Q.

| | Page 74 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | on that computer in 2004? |
| 3 | A. I do not. |
| 4 | Q. And you don't know if it was littered |
| 5 | with hundreds of types of malware in 2004? |
| 6 | A. I don't know anything about the state |
| 7 | of the computer in 2004. |
| 8 | Q. And do you think it's a reasonable |
| 9 | conclusion that if a computer in 2011 has the |
| 10 | list of malware on it that you saw on Mr. Broom's |
| 11 | report that that makes it more likely that that |
| 12 | computer had malware on it sometime prior to 2011? |
| 13 | A. I would not agree with that, no. |
| 14 | Q. Do you know when all that malware |
| 15 | landed on that computer? |
| 16 | A. I do not. |
| 17 | Q. Do you know if any of that malware had |
| 18 | earlier versions that were in existence in 2004? |
| 19 | A. I'm not sure I understand the question. |
| 20 | Q. Well, you know Microsoft Word |
| 21 | A. Sure. |
| 22 | Q it's got some version number for the |
| 23 | current version of today, let's call it the 2012 |
| 24 | version, and eight years ago it had a prior |
| 25 | version, maybe called Microsoft 2003. |

Page 75 1 B. Rose 2 You are aware that Microsoft works that 3 way? Sure. 4 Α. 5 So I'm asking about the malware that's Ο. 6 currently on the computer that Mr. Broom found, 7 do you have any evidence of what prior versions 8 of that malware existed before? 9 Α. I guess that I don't really understand 10 the premise of the question in the sense that, 11 you know, people who produce malware generally 12 don't version like Microsoft Word does. They'll 13 create, I guess, what I would consider new 14 malware and maybe it's just a matter of semantics, 15 but, you know, certainly it is possible for, you 16 know, pieces of malware to, you know, once 17 malware, for instance, is discovered and shut 18 down and picked up by the virus scans, they may 19 adapt that and create a new piece of malware, you 20 know, that's a variation off that. 21 Now, in your report there's -- let me Ο. 22 find the page -- you talk about a sent items DBX 23 file in various places in the report; do you 24 recall that? 25 One of them is -- I just found the

Page 76 1 B. Rose 2 first one just for purposes of the question, it's 3 referred to on page 15, you talk about the sent items DBX file? 4 5 Α. Yes. 6 Ο. And it's other places in the report as 7 well, you would agree? 8 Α. Yes. 9 Q. Can you look at page 16 of 102 of your 10 report. 11 Α. Are you referring to the top line 12 numbers? 13 Q. Top line numbers, yeah. 14 Yes. Α. 15 Now, you have a graphic there of the Q. 16 sent items folder of Vera Ceglia's e-mail 17 account; true? MR. SOUTHWELL: Object to the form. 18 19 In terms of what do you mean by Vera Α. 20 Ceglia's e-mail account? 21 Well, the e-mail associated with --Ο. 22 what was the e-mail associated with this account? 23 The user name that resolves when you Α. 24 send an e-mail is Vera Ceglia. 25 Any reason to believe that that is not Q.

Page 77 1 B. Rose 2 Vera Ceglia's e-mail account? 3 Well, I believe the account is Α. registered to Carmine Ceglia. 4 5 So whose account did your forensic Ο. 6 analysis determine that that was, Vera's or 7 Carmine's, or did they both use it? 8 Α. I think our forensic analysis showed 9 and, again, forensics and the information we 10 obtained during the analysis showed the account 11 was registered to Carmine Ceglia, that the user 12 name that resolves is Vera Ceglia and that in the 13 case, at least in the case of the two StreetFax 14 e-mails, the account was used by Paul Ceglia. 15 So you mention -- you list there five Q. 16 sent items, three of them are blacked out. 17 Do you see that? That's correct. 18 Α. 19 Did it seem unusual to you that on Q. 20 average only one e-mail was sent per year that 21 that account or that that DBX file existed from 22 Outlook? 23 MR. SOUTHWELL: Objection. 24 Α. I don't think you can -- I mean, I 25 think that's a faulty premise. You certainly

Page 78 1 B. Rose 2 can't conclude from the fact that only five 3 e-mails are here that that's the extent of the sent e-mails. 4 5 Where would other sent e-mails be? Ο. 6 Α. They could have been deleted. 7 Did your forensic analysis find Q. evidence that sent e-mail items were deleted? 8 9 Α. No. 10 So where are they, the rest of the ones Q. 11 that -- other than those five that were sent in 12 five years, what evidence do you have? 13 Α. I don't know whether they exist. 14 I'm saying that based on an analysis 15 of the current contents of a mailbox you can't 16 conclude that that is a complete historical 17 record of everything that was sent, nor to the extent e-mails were deleted over time are you 18 19 necessarily going to be able to recover evidence 20 of those deleted e-mails, so what I'm saying is what this is evidence of is what resided in this 21 22 mailbox at a particular historical point in time. 23 Now, would that statement, those series Ο. 24 of statements you just gave also apply to Mark 25 Zuckerberg's Harvard e-mail account?

Page 79 1 B. Rose 2 Α. Could you be specific about which 3 statements you want me to apply to his e-mail account? 4 5 Ο. Let's break them down. 6 Α. Sure. 7 It's true that it's your opinion based Q. 8 on page 24 there that that's not necessarily all 9 of the sent items, all of the items that were 10 ever sent from that e-mail account? 11 Again, it is a snapshot, a historical Α. 12 record of a particular point in time. 13 Q. So it would be true, then, that the 14 items that you found in the equivalent sent items 15 folder of Mark Zuckerberg's Harvard e-mail 16 account, not necessarily all of the e-mails he 17 ever sent? 18 Α. I think that's true of everyone's 19 e-mail, yes. 20 And there could be e-mails that were 0. 21 deleted that you were not able to recover, that 22 he had sent but then got deleted? 23 There could have been e-mails deleted Α. 24 either through user action or through system 25 processes that we were not able to recover,

Page 80 1 B. Rose 2 that's correct. 3 Did you ask Mr. Zuckerberg if he 0. deleted any e-mails from his Harvard e-mail 4 5 account? I have not spoken to Mr. Zuckerberg. 6 Α. 7 Why didn't you ask him that? Q. 8 MR. SOUTHWELL: Objection. He just 9 said he didn't speak to him. 10 Α. I have never spoken to Mr. Zuckerberg. 11 I understand you've never spoken to him. Ο. 12 Why didn't you speak to him and ask him 13 whether he deleted e-mail from his account? 14 Again, I'm doing a forensic analysis. Α. 15 You know, to the extent that others -- the 16 strategy about whether interview Mr. Zuckerberg 17 is beyond what we were charged to do in the 18 expedited discovery. I was asked to do a 19 forensic analysis of the Ceglia media. 20 Is it of no value to your forensic Ο. 21 analysis to know how somebody who's a user of a 22 computer tells, that actually states how they 23 used it, that's not relevant to your analysis? 24 I don't think that would have been Α. 25 relevant to our report, no.

Page 81 1 B. Rose 2 Q. I'm saying is it relevant to your 3 analysis to know how Mark Zuckerberg used his e-mail account. 4 5 To our expedited discovery analysis Α. 6 or --7 Is it relevant to you at all? Q. 8 Look, again, you know, the Harvard Α. 9 e-mail was not included here, it was not part of 10 the expedited discovery, so to the extent we are 11 talking about my report, and that's what I 12 thought we were here talking about is Stroz 13 Friedberg's report, talking to Mr. Zuckerberg 14 about his practices with e-mail would not be 15 relevant. 16 In understanding, you know, the Harvard 17 e-mail, right, our analysis of that was limited 18 to trying to collect it all and provide it in a 19 format that could be reviewed and looking for the 20 existence of the purported e-mails and various 21 correspondence with StreetFax employees, that 22 was our analysis and that was what we were 23 limited to. 24 What we were charged with, knowing 25 Mr. Zuckerberg's historical practices, would not

Page 82 1 B. Rose have been relevant. Whether that's relevant to 2 3 the broader case and whether that's an analysis that should be done, I mean, that's really a 4 strategic question that I would leave to the 5 6 attorneys. 7 THE VIDEOGRAPHER: I need a card 8 change. 9 MR. BOLAND: All right. We will go off 10 the record for a moment so he can change the 11 card. 12 Do you want to take a 10-minute break Q. 13 so you can run to the bathroom or whatever? 14 Α. Sure. 15 (Recess taken.) 16 (Rose Exhibit 2, declaration of Neil 17 Broom, marked for identification, as of this 18 date.) 19 MR. BOLAND: Could we start the video 20 back up again? 21 THE VIDEOGRAPHER: Recording tape 2. 22 MR. BOLAND: We are back on the record. BY MR. BOLAND: 23 24 Mr. Rose, we just had about a 10 or so Q. 25 minute break.

VERITEXT REPORTING COMPANY www.veritext.com

| | Page 83 |
|----|-------------------------------------------------|
| 1 | B. Rose |
| 2 | Did you chat with defense counsel about |
| 3 | the deposition during the break? |
| 4 | A. I did not. |
| 5 | Q. I'm going to back up to a topic briefly |
| 6 | and then we will move ahead to ask you a couple |
| 7 | more questions. |
| 8 | The 15 or 20 computers that |
| 9 | Mr. Zuckerberg had used historically and you |
| 10 | indicated members of your firm had analyzed; |
| 11 | true? |
| 12 | A. Correct. |
| 13 | Q. And who at Stroz Friedberg actually |
| 14 | obtained that evidence? |
| 15 | A. I do not know. |
| 16 | Q. Where did they physically go |
| 17 | geographically to get that evidence? |
| 18 | MR. SOUTHWELL: Objection. He just |
| 19 | said he doesn't know. |
| 20 | MR. BOLAND: I asked him who obtained |
| 21 | it, he doesn't know. |
| 22 | Q. Where |
| 23 | MR. SOUTHWELL: He previously testified |
| 24 | he doesn't know about this, so |
| 25 | Q. Where was that evidence located? |

Г

Page 84 1 B. Rose 2 Α. I believe generically it was in California. 3 Who supervised that collection of that 4 Q. 5 evidence? I don't know. 6 Α. 7 And who did the actual work and Q. 8 analyzing those 15 or 20 computers? I don't know. 9 Α. If you could look at what's been marked 10 Q. 11 Rose Exhibit 2 and tell me if you've seen that 12 before. 13 Α. I have. 14 And that in fact for the record, for Ο. 15 the Court, is Mr. Neil Broom's report, the 16 plaintiff's computer forensics expert; true? 17 Α. That's my understanding, yes. 18 Ο. Could you go to page 21, again, in the 19 upper right-hand corner page numbers in the 20 report. 21 MR. SOUTHWELL: Can we pause for just a 22 second? Our computer is not connected to 23 the Livenote. 24 THE COURT REPORTER: Do you want to go 25 off the record?

| | Page 85 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | MR. BOLAND: We can go off the record, |
| 3 | that's fine, sure. |
| 4 | (Discussion off the record.) |
| 5 | BY MR. BOLAND: |
| 6 | Q. So we are back on the record. |
| 7 | If you could just look at page 21 of |
| 8 | Mr. Broom's report. |
| 9 | Are you on that page? |
| 10 | A. Yes, referenced by the top-line number, |
| 11 | I believe they are the same. |
| 12 | Q. Do you see in the second full paragraph |
| 13 | Mr. Broom discusses the dimensions of the scanned |
| 14 | documents that would have been needed to create |
| 15 | the TIFF images attached to the Kole e-mail? Do |
| 16 | you see that description of the size? |
| 17 | A. I see a description of the dimensions |
| 18 | of the scanned documents, yes. |
| 19 | Q. Right. |
| 20 | The dimension dimensions he calculated |
| 21 | are 2.4 by 3.2 inches in size; correct? |
| 22 | A. That's what he states. |
| 23 | Q. Do you have any different opinion on |
| 24 | what size of a document would be needed to be |
| 25 | scanned to generate the size of the dimensions |

Page 86 1 B. Rose 2 for the TIFF images that you found? Do you 3 disagree with his calculation of that size? Α. Would you repeat that question? 4 5 Do you disagree with his calculation of Ο. 6 2.4 by 3.2 inches in that paragraph? 7 MR. SOUTHWELL: Are you talking 8 about -- object to the form. Are you 9 talking about his calculation of the TIFF 10 file? 11 MR. BOLAND: Yes. 12 Α. As I understand it, that's the 13 dimensions he calculated for the TIFF images. 14 Ο. That's the dimensions he has -- well, 15 I'm just asking you if you disagree with that 16 calculation in that paragraph. 17 Take your time to read that paragraph 18 and tell me if you disagree with the calculation 19 that he has there. 20 I think that paragraph is ambiguous as Α. 21 to what scanned documents means. I don't know 22 whether he is referring to the scanned images 23 themselves as they appear on the computer or 24 whether he is referring to the dimensions of the 25 pieces of paper that were scanned at some point

Page 87 1 B. Rose 2 to create the TIFF images. 3 Well, in that paragraph -- well, let's Ο. back up. 4 5 The TIFF images as they appear on your 6 report, or Exhibit 1 that I have shown you, let's 7 put it that way, Exhibit 1, are much smaller than 8 an 8-1/2-by-11 piece of paper; true? We looked at them earlier. 9 10 MR. SOUTHWELL: Objection. You didn't 11 look at the one that was filed. You are 12 looking at your printout. The one that's 13 filed is not that small. 14 I'm talking about Exhibit 1 that I 0. 15 showed you. 16 MR. SOUTHWELL: That's your printout of 17 Exhibit 1, that's not what it looked like when it was filed. 18 19 MR. BOLAND: Fair enough. 20 I am saying, on Exhibit 1, the size of Q. 21 that image --22 MR. SOUTHWELL: You're on Mr. Boland's 23 printout of Exhibit 1 --24 MR. BOLAND: I am not deposing you, 25 Alex, I'm just asking him to look at the

Page 88 1 B. Rose exhibit. 2 3 MR. SOUTHWELL: You seem to be implying that the actual exhibit in the record was 4 5 small. 6 MR. BOLAND: Whatever I'm implying, 7 though, you can't coach the witness. 8 MR. SOUTHWELL: I'm just trying to get 9 a clear record about you're talking about. 10 MR. BOLAND: And I am making very 11 clear. 12 Exhibit 1, which we looked at before, Q. 13 has an image in it of page 1 of the TIFF? 14 Α. Correct. 15 And the image in that exhibit -- that's Q. 16 all I'm talking about, is that Exhibit 1 -- makes 17 that image is much smaller than an 8-1/2-by-11 18 piece of paper. 19 The image in the printed copy you've Α. 20 handed me that we've looked at in Exhibit 1 is 21 smaller than 8-1/2 by 11, correct. 22 Q. And the physical -- did you do a 23 measurement or did anyone from Stroz Friedberg 24 measure the dimensions of the TIFF images that 25 you found?

| | Page 89 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | A. Not that I know of. |
| 3 | Q. Do you have any reason to disagree with |
| 4 | Mr. Broom's calculation that the dimensions of |
| 5 | those TIFF images are what he puts in paragraph 2? |
| 6 | A. I don't have any information to |
| 7 | evaluate that calculation. |
| 8 | Q. And then in paragraph 4 of that same |
| 9 | page Mr. Broom again calculates that the |
| 10 | resulting dimensions of the TIFF file are about |
| 11 | 30 percent the size of a regular piece of paper. |
| 12 | Do you see where he says that? |
| 13 | A. Are you referring to the fourth |
| 14 | paragraph? |
| 15 | Q. Yes, fourth full paragraph. |
| 16 | A. Let me read it. |
| 17 | Q. Sure. |
| 18 | A. Okay, I've read it. |
| 19 | What's your question, again? |
| 20 | Q. Do you have any reason to disagree with |
| 21 | his calculation there that the physical |
| 22 | dimensions of the TIFF images you found or your |
| 23 | team found are about 30 percent the size of a |
| 24 | regular piece of paper? |
| 25 | A. Well, as I understand it, what he's |

Page 90 1 B. Rose 2 saying is he took an 8-1/2-by-11-inch piece of 3 paper, he then put it on a copier, copied it at 30 percent the size of the original and then 4 5 scanned that with the scan area set to 2.4 by 3.2 inches and the resulting files were 945 kilobytes 6 7 and 123 kilobytes. 8 Ο. Did you look at the metadata related to 9 the TIFF images attached to the Kole e-mail? 10 Α. Yes. And isn't it true that that metadata 11 Ο. 12 includes the dimensions of the image? 13 Α. I don't specifically recall, but it 14 could. 15 Q. And do you have any reason to dispute 16 Mr. Broom's reading of that metadata that he, 17 from where he derived those dimensions? 18 Α. Again, I don't have any information in 19 my possession right now that I could evaluate his 20 conclusions one way or the other. 21 And you -- the version of this report Ο. 22 that was actually -- I'm sorry, looking at 23 Exhibit 1 again that I showed you --24 Α. So you are referring to our report? 25 Correct. Well, Exhibit 1 there. Q.

Page 91 1 B. Rose 2 Do you agree or not that the size of 3 that TIFF image as it appears in Exhibit 1, is that different than the size of that TIFF image 4 5 as it appeared in the report you filed with the 6 Court? 7 Α. I don't know. 8 Q. Did you or anyone from Stroz Friedberg 9 magnify the TIFF image, magnify it and print it 10 as an exhibit to your report before you filed it? 11 Α. Not that I recall. 12 The TIFF images attached to the Kole Q. 13 e-mail have -- it's true they have the file names 14 Scan0001.tif for the second page of the contract; 15 true? 16 I would have to refresh the report. My Α. 17 recollection is that Scan0001 is in fact the 18 first page of the report. 19 If you could grab your report there, do Q. 20 you see -- I'll get you there quickly. 21 Let's go to page 19 of 102 in the upper 22 right-hand corner, do you see that table that's 23 in the middle of page there, it has a blue top 24 line? 25 Yes. Α.

Page 92 1 B. Rose 2 Q. So does that refresh your recollection 3 as to the page 1 of the StreetFax contract being file name Scan0002.tif? 4 Again, let's -- I don't want to confuse 5 Α. 6 the issue here. 7 What you are referring to is a table 8 that has the subject so that it was denominated by the sender, Paul Ceglia, as page 1 of 2 for 9 10 StreetFax contract and what was attached to that was Scan0002.tif. In fact, if you look at the 11 12 image, that is in fact a copy of page 1 of the 13 contract, in other words, it is a misdescription 14 in the subject line and they were sent out of 15 order, but the names are in fact accurate in 16 terms of 1 and 2 being -- 1 being the first page 17 of the contract and 2 being the second page of the contract. 18 19 And that file-naming convention there Q. 20 appears to be a default file name that a scanner 21 would use or scanner software, let's put it that 22 way? 23 Yeah, it's consistent with that. Α. 24 Q. Did you find any evidence in your analysis different than that that indicated 25

VERITEXT REPORTING COMPANY www.veritext.com

Page 93

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | that's not a default file name from software? |
| 3 | A. I don't know what we would find in a |
| 4 | forensic analysis of the Ceglia media that would |
| 5 | show us what the default naming scheme for a |
| 6 | particular scanner was; that is a typical default |
| 7 | naming convention for scanned documents. |
| 8 | MR. SOUTHWELL: Mr. Boland, if I may |
| 9 | interrupt, attached as Exhibit F and G to |
| 10 | the report are the scans that go along with |
| 11 | it. I just want to make I just want to |
| 12 | make sure it's clear. Maybe you are under |
| 13 | the misapprehension about the 002 whether it |
| 14 | is the first page or second page. |
| 15 | MR. BOLAND: No, I'm fine. Thank you. |
| 16 | Q. So let's continue on with this table |
| 17 | here, Scan0002.tif, was that file scanned, was |
| 18 | that the earliest of the two pages that was |
| 19 | scanned, based on your report? |
| 20 | A. Yes, so that well, I should say what |
| 21 | we know is that that would have been the one that |
| 22 | was first created on the Seagate hard drive. |
| 23 | Q. And then the Scan001.tif was created |
| 24 | later? |
| 25 | A. That's correct. |

Page 94 1 B. Rose 2 Q. Now, in your experience with default 3 file names of scanner software, wouldn't you agree with me that if you scan four different 4 5 jobs, the scanner software by default is going to continue to count forward and not backward? 6 7 Α. Generally. 8 Ο. And yet here we have the earlier 9 scanned image having a higher number than the 10 later scanned image, as you just testified; 11 correct? 12 Α. I don't believe I testified -- I'm 13 sorry, what was your question? 14 The file name Scan0002 was created on Ο. 15 the hard drive before the file name Scan0001, you just testified to that; correct? 16 17 Α. That's correct. So if they were scanned, how did 18 Q. 19 that -- if they were scanned onto that hard 20 drive, that's one way they could have gotten on 21 to that hard drive; true? 22 Α. That's one possible way they could have 23 gotten on the hard drive. 24 Q. So how would that happen? If 25 hypothetically they were scanned onto that hard

Page 95

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | drive, how would that scanner have been counting |
| 3 | backwards? |
| 4 | A. The scanner would not have to have been |
| 5 | counting backwards, so there are a couple of |
| 6 | possibilities; one is that they were copied to |
| 7 | the hard drive in a different order than they |
| 8 | were scanned so that scan 2 was the second scan |
| 9 | but it was copied to the hard drive first, in |
| 10 | other words, not a direct scan. It's also |
| 11 | certainly possible that when you put something |
| 12 | into a scanner that the first item to be scanned |
| 13 | would be the second page; right? Scanners scan |
| 14 | things depending upon how you feed documents in, |
| 15 | and it is certainly possible to feed documents in |
| 16 | in a backwards order, so it is not the scanner |
| 17 | counting backwards, but it's the way in which the |
| 18 | user scanned it. |
| 19 | Q. And what evidence did you find in |
| 20 | analyzing the Ceglia media of either one of those |
| 21 | two things happening? |
| 22 | A. I don't think we found any evidence as |
| 23 | to the order of scan, of direct scanning, right, |
| 24 | or of how a user was feeding documents into the |
| 25 | scanner. I mean, it seems clear the only |
| | VEDITEXT DEDODTING COMDANN |

VERITEXT REPORTING COMPANY www.veritext.com

Page 96 1 B. Rose 2 thing we can say from the evidence is I would 3 agree that it appears as if the second page of the contract was scanned first. 4 5 Well, and it's obvious from your Ο. analysis that the file name Scan0002 was created 6 7 first as well? 8 Α. What do you mean by created? Scan0002 was created first on the 9 10 Seagate hard drive. And then the Scan0001 was created 11 Ο. Yes. 12 second on the Seagate hard drive? 13 Α. Yes. Which could be a function of them 14 just being copied in that order. 15 Again, I'm not offering an opinion as 16 to, you know, the origination of the document, 17 but rather, what I can tell you from the metadata associated with the creation dates of the files 18 19 is what order they were copied to that computer in. 20 Let's ask about those creation dates Ο. 21 for a second. 22 The creation dates associated with those two TIFF image files, are those accurate? 23 24 Α. I believe so, yes. 25 Based on what? Ο.

Page 97 1 B. Rose 2 Α. I think that was the time recorded by the computer and it appears to be an accurate 3 time. 4 5 What are all the facts you have that 0. 6 those dates are accurate, the creation dates of 7 those two TIFF images are accurate dates and 8 times? Can you list for me the facts that 9 support that conclusion? 10 Α. Sure. So we have the creation date of the 11 12 files, right, so -- and let me refresh my 13 recollection of the report to give you the exact 14 creation dates. 15 So you have an initial creation date of 16 approximately 10:37 for the first e-mail, which 17 again contains the second page of the contract, so that was 10:37 a.m. 18 19 You then have that being sent out via 20 e-mail and an initial time being appended in the 21 Internet headers by the Adelphia servers which is 22 immediately following which is consistent 23 evidence that in fact that time setting on the 24 computer is correct because then you're dealing with a consistent time set by an independent 25

Page 98 1 B. Rose 2 server. 3 You then also have times appended by two servers at Sidley & Austin, including the 4 5 intermediary server and the final server 6 receiving it. 7 All of those which are independent of 8 each other all indicate consistent times, so in 9 fact I think based on that evidence we can 10 conclude that in fact the creation and the sent 11 time of the e-mail on the computer is the same. 12 I will also say that you also have the 13 e-mails then being forwarded on by Mr. Kole 14 shortly after again with a consistent time, so 15 all of those times appended by servers that are 16 independent of this clock setting demonstrate 17 this time is accurate. 18 So it's those, the Adelphia e-mail Q. 19 server is one factor that confirms this time in 20 your mind? 21 You have the fact that the system clock Α. 22 has recorded the time and then -- so look for 23 evidence outside of the system clock, right, 24 correct, the first piece of evidence I would look 25 to is the Adelphia server, which is the first

Page 99 1 B. Rose 2 server it hit after being transmitted. 3 And then the server at Sidley & Austin? 0. Α. Two servers at Sidley & Austin. 4 5 So two e-mail servers? 0. 6 Α. Correct. 7 So three e-mail servers now, Adelphia Q. and two at Sidley Austin, those help bolster your 8 9 confidence in the creation date of the two TIFF 10 images? 11 Α. Correct. 12 Q. Anything else? 13 Α. I think that's it. 14 Without those e-mail servers, Ο. 15 hypothetically, say you had no evidence of e-mail 16 servers at all, would you still be confident in 17 that creation date, that time being accurate? 18 Α. I mean, that's a complete hypothetical, 19 since I have those e-mail servers, so it's a 20 little hard to evaluate that outside the context 21 of having those e-mail servers, which I think 22 clearly demonstrate the times are correct. 23 If all we had was the system clock, 24 which is not the case here, I would say that, you 25 know, we would look for evidence of system clock

Page 100 1 B. Rose manipulation. 2 Absent that, I think, you know, we 3 would proceed as if it were the correct time, 4 5 but, you know, your confidence of not having all of those external factors would be much less than 6 7 it is when you have external evidence that's all consistent with the time. 8 9 Q. Well, what about -- okay. 10 And you've been an expert in other 11 cases; right, an expert witness? 12 Α. I have not been an expert witness in 13 other cases. 14 This is the first time you have ever Ο. 15 even sat for a deposition? 16 Well, I have sat for a deposition Α. 17 before. Have you ever been asked hypotheticals 18 Q. 19 at those depositions? 20 Α. Yes. 21 Q. Okay. 22 So you know that's a fair question for 23 experts, hypotheticals? 24 Α. Yes. 25 So the hypothetical I asked you was if Q.

Page 101 1 B. Rose 2 the three e-mail servers didn't exist, none of that data existed, it's fair to say you'd have 3 less confidence in the creation date of those two 4 5 TIFF images; true? I mean, again, your hypothetical asks 6 Α. 7 me to discard the servers, it doesn't -- I mean, 8 we would look for other, you know, other evidence 9 outside of that. 10 Assuming the only thing I have -- maybe 11 this is your hypothetical -- the only thing I 12 have is the time appended by the computer 13 itself --14 Ο. Yes, assume that. 15 -- would I be as confident as I am in a Α. 16 case where I also have consistent evidence from 17 external servers? No, I would not be as confident. 18 19 And if you found evidence of a system Q. 20 clock being manipulated along with only having 21 the date appended to that file, would you be even 22 less confident in the accuracy of that creation 23 date? 24 Α. I think that would depend on the system 25 clock manipulation and our evaluation of how it

Page 102 1 B. Rose 2 would have affected that particular e-mail. 3 These are all very context -- the problem with the hypotheticals is they are all 4 5 very contextual, so it really depends on the other evidence, you know, in terms of if I have a 6 7 system clock manipulation that appears to have 8 impacted that time, I wouldn't be confident in it 9 at all. 10 How would you know if a system clock Ο. 11 manipulation affected a particular file's 12 creation date? 13 Α. Well, if you -- I mean, if I can show 14 that at the time the file was created on the 15 computer the system clock was backdated, that 16 would be one way. 17 Are you aware that Mark Zuckerberg --Ο. 18 related to the TIFF images attached to the Kole 19 e-mail, your expert opinion in that report was 20 that that is the authentic contract between the 21 parties; true? 22 Α. The TIFF images, the StreetFax contract, 23 yes. 24 Q. And you are aware that Mark Zuckerberg 25 has never offered a declaration in this case

Page 103 1 B. Rose 2 agreeing with that position, that that is the 3 authentic contract between the parties? I am not aware one way or the other of 4 Α. 5 what Mr. Zuckerberg has offered in the way of 6 declarations. 7 Are you aware that none of the other Q. 8 experts in this entire case have offered an 9 opinion that the StreetFax contract is the 10 authentic contract between the parties? 11 I don't know that one way or the other. Α. 12 Now, we talked a little bit earlier Q. 13 about rootkits and malware; you remember I was 14 discussing that? 15 Α. Yes. 16 And rootkits can be used by hackers, Ο. 17 you would agree? Rootkits can be used by hackers, I 18 Α. 19 would agree with that. 20 Can hackers take over the operation of Ο. 21 a computer, is that one of the things hackers 22 have the ability to do? 23 It depends, again, on the specific Α. 24 circumstances. I mean, if they have the proper 25 access and, you know, that the software which

Page 104 1 B. Rose would allow that kind of control is in place, 2 3 yes. Does that kind of software exist for Ο. 4 5 them to do that, for hackers to do that? Does it exist in the world? 6 Α. 7 Q. Yes. 8 Α. Yes. 9 Ο. Can hackers take over e-mail programs? 10 What do you mean, take over e-mail Α. 11 programs? 12 Q. Intrude on someone's computer and send 13 out e-mails on their behalf. 14 Α. Yes. 15 Can hackers intrude on someone's Q. 16 computer and deposit files onto that person's 17 computer? There's no questions about what hackers 18 Α. 19 are capable of doing in the world today, yes. 20 Yes. 21 Well, let's talk about back in 2004, Q. 22 then. 23 Would you amend any of my answers if I 24 asked you those questions and said in 2004 can a 25 rootkit be used by a hacker, is there a different

| | Page 105 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | answer? |
| 3 | A. I think the same general answer would |
| 4 | apply to 2004. |
| 5 | Q. Very well. |
| 6 | Did your work on this case cause you to |
| 7 | learn that anyone involved in this case has some |
| 8 | ability for computer hacking? |
| 9 | MR. SOUTHWELL: Object to the form. |
| 10 | A. Could you rephrase that? |
| 11 | Q. You analyzed a bunch of computers in |
| 12 | this case; right? |
| 13 | A. Right. |
| 14 | Q. Some were provided or produced by Paul |
| 15 | Ceglia; correct? |
| 16 | A. Correct. |
| 17 | Q. Some were produced by Mark Zuckerberg? |
| 18 | A. Correct. |
| 19 | Q. In part of your analysis of those |
| 20 | computers did you learn that anyone involved in |
| 21 | this case has hacking ability? |
| 22 | A. Nothing in my analysis indicated that |
| 23 | anyone involved in the case had hacking ability, |
| 24 | no. |
| 25 | Q. Are you aware from things outside of |

Page 106 1 B. Rose 2 your analysis that Mark Zuckerberg has some 3 proficiency as a computer hacker? Α. I am aware in a general sense that 4 5 Mr. Zuckerberg has been accused of some actions 6 which were called hacking in the past; I do not 7 have any information regarding his proficiencies 8 or his ability to do that. 9 Ο. Are you aware that his company Facebook 10 has a hacking contest every year amongst 11 employees? 12 Α. No. 13 Q. Are you aware that Mr. Zuckerberg has 14 hired renowned hackers to be employees? 15 I'm not aware of that one way or the Α. 16 other. 17 Did you look for evidence of hacking on Ο. 18 Paul Ceglia's parents' computer where these TIFF 19 images supposedly originated from? 20 Α. We did not. 21 But even if you looked at it, is it Ο. 22 possible that a hacker who accessed a computer 23 could leave no trace of that intrusion? Isn't 24 that possible? 25 It is theoretically possible for a Α.

Page 107 1 B. Rose 2 hacker to leave no trace. 3 Now, the StreetFax contract that we've Ο. been talking about you found on two different 4 5 pieces of media; correct? I think you say that at the top of 15, page 15 of Exhibit 21? 6 7 Α. Yes, that's correct. 8 And let's just be clear for the Court, Ο. 9 because later on on that page -- correct me if 10 I'm wrong -- you say, you clarify that the 11 StreetFax contract was found on a hard drive that 12 you analyzed and a forensic copy of that same 13 hard drive that you analyzed. Is that a fair statement? 14 15 I don't think we're clarifying anything. Α. 16 I think we're being very clear about the pieces 17 of media we analyzed. The StreetFax contract was on two different hard drives. I think we're very 18 19 clear on that very page; right? I think actually 20 in the first paragraph in the second sentence 21 that in fact one is a copy of a hard drive that 22 we made and was produced to us in July and the 23 other, again, was a copy we made of StreetFax in 24 July that we determined upon analysis was a 25 actually a forensic image of the hard drive, so

Page 108 1 B. Rose 2 we have the Seagate hard drive that's produced to 3 us, we have a Western Digital, we determined the Western Digital hard drive was in fact a forensic 4 5 copy that had been previously made of that, and I think we're very clear about that in the second 6 7 sentence. 8 Ο. So the forensic copy was that physical 9 hard drive that had that forensic copy on it, 10 that was not produced by Paul Ceglia, that was a 11 copy made of something he produced; true? 12 Α. Are you referring to the Western 13 Digital hard drive? I'm referring to the forensic copy that 14 Ο. 15 you mentioned on page 15. 16 Α. Okay. 17 The forensic copy was on a Western 18 Digital hard drive that was produced to us in 19 Chicago by Mr. Lake as part of the Ceglia media. 20 To me, that's produced by Paul Ceglia, so I would 21 say that both of them in fact were produced to us 22 by Paul Ceglia. 23 Now, the computer where these TIFF Ο. 24 images were found, did you read Paul Ceglia's 25 father's declaration that was filed in this case

Page 109 1 B. Rose that was document number 419? 2 3 I may have read it at one point in Α. time, I don't have a specific recollection of 4 5 that. Well, let's assume, since you don't 6 Ο. 7 have a recollection of that, that Mr. Ceglia's 8 father declared that his son, Paul Ceglia, the 9 plaintiff, never had access to the computer on 10 which the Kole e-mail originated, let's assume he 11 says that. 12 Α. Rather than assuming it, can we 13 actually look at a copy of the --14 Ο. This is a hypothetical for now. 15 Let's just assume he said that, which 16 I'll represent to you he did say that in document 17 419, but I'll let you answer the question with an 18 assumption, you don't have to accept the fact as 19 true, we'll just do the hypothetical. 20 Would that change your opinion that 21 Paul Ceglia sent those e-mails if his father 22 declared under the penalty of perjury that Paul 23 Ceglia never had access to that computer? 24 MR. SOUTHWELL: Mr. Boland, are you 25 referring to document 419?

Page 110 1 B. Rose 2 MR. BOLAND: That's what my notes say, 3 yeah. MR. SOUTHWELL: Because that's not what 4 5 it says. It doesn't say anything about he 6 never had access. It asserts my son Paul 7 Ceglia never used the computer, which is 8 contrary to some earlier declarations he's 9 provided, but --MR. BOLAND: 10 Let's clarify that. 11 Let's just say hypothetically Mr. Ceglia Ο. 12 does offer a declaration of the father, Carmine 13 Ceglia, saying that Paul Ceglia never had access, 14 never used, never got anywhere near that 15 computer. 16 Would that declaration change your 17 opinion regarding your conclusion that Paul 18 Ceglia sent those e-mails? 19 Based on the forensic evidence, I think Α. 20 it is clear that Paul Ceglia sent those e-mails. 21 I would not regard a statement like that from 22 Mr. Ceglia to be credible in light of the 23 evidence that's been uncovered in this case, so 24 no, it would not change my opinion. 25 And how did, in your opinion, based on Q.

Page 111 1 B. Rose 2 your forensic analysis, how did Paul Ceglia send 3 this e-mail, meaning was he physically at the computer and hit the keys on the keyboard to send 4 5 it or did he somehow remotely access the computer and then send the e-mail that way? 6 7 Again, given the fact that the files Α. 8 were copied physically to the hard drive, I would 9 think the most likely explanation is in fact a 10 physical access to the computer, but, you know, I 11 can't eliminate remote access as a possibility. 12 So you're saying one's more likely? Q. Is 13 that your --14 I believe so. Α. 15 And define the term "likely." What Q. 16 does that mean? How did you rule out the 17 likelihood of remote access? 18 Α. Define likely? 19 I think if I had to from -- if you 20 asked me do I think he had physical access or 21 remote access, I think there's a greater 22 probability, meaning more likely that he had 23 physical access, that's likely. 24 And what's the forensic evidence that Q. 25 supports that opinion?

Page 112 B. Rose Α. Again, I think the copying of the scanned image to the hard drive immediately beforehand to me is more consistent with physical access, but, again, you know, you're asking whether remote access is possible? Yes. And I should say, you know, I mean, I'm talking remote access theoretically. You know, whether under the circumstances and the capabilities that, you know, Adelphia had at the time in terms of whether it offered Web access and all of that, that's a specific question as to whether in these circumstances remote access is possible, I don't know that. As a general matter, I can't eliminate remote access as a possibility. Did your investigation reveal where Ο. Paul Ceglia resided at the time that e-mail was sent? Our forensic analysis of the Ceglia Α. media did not reveal where Mr. Ceglia resided at the time this was sent. And did it reveal where Paul Ceglia's Ο. parents' computer was physically located at the

25 time those e-mails were sent?

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

Page 113

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | A. There is some evidence that in 2010 |
| 3 | that IP address was registered to the Buffalo, |
| 4 | New York, area, so I think there's some support |
| 5 | for the fact that the computer resided somewhere |
| 6 | in upstate New York, but in terms of drawing a |
| 7 | definitive conclusion about where that resided, I |
| 8 | can't do that from the forensics. |
| 9 | Q. Well, you'd agree with me that your |
| 10 | conclusion about again, another |
| 11 | hypothetical your conclusion about Paul Ceglia |
| 12 | having most probably physical access to the |
| 13 | computer to send the e-mails, if he resided |
| 14 | outside the state of New York and was physically |
| 15 | outside the state of New York at the time those |
| 16 | e-mails were sent, the likelihood of him being |
| 17 | the one who sent the e-mails is very low, since |
| 18 | he wasn't physically accessing the computer at |
| 19 | that time; true? |
| 20 | MR. SOUTHWELL: Object to the form. |
| 21 | A. I completely disagree with that. |
| 22 | I mean, the question is not where did |
| 23 | he reside, the question is where he is at a |
| 24 | particular point in time. |
| 25 | I reside in New York, I visit my |

Page 114

| | raye 114 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | parents frequently in Indiana, so I don't |
| 3 | think and I use their computer when I'm there, |
| 4 | so I don't think you can possibly conclude from |
| 5 | where somebody purportedly resides that there's a |
| 6 | low likelihood they were at their parents' house |
| 7 | or at a location where their parents resided at |
| 8 | any particular point in time. |
| 9 | Q. Well, let's not use reside. I'll be |
| 10 | more precise. |
| 11 | What if hypothetically on the date and |
| 12 | time these e-mails were sent he was not |
| 13 | physically in Buffalo, New York, he was in |
| 14 | another state, then what's the likelihood he sent |
| 15 | the e-mails then, what's the probability he was |
| 16 | the one who sent the e-mail? |
| 17 | A. I wouldn't want to put a number on it. |
| 18 | Again, you know, remote access is |
| 19 | possible. I think it is more likely explained by |
| 20 | physical access, but in terms of if Mr. Ceglia |
| 21 | was in a particular location, what's the |
| 22 | likelihood he sent the e-mails, I think it is |
| 23 | absolutely clear from all of the evidence in this |
| 24 | case, from the StreetFax e-mails themselves, from |
| 25 | the attempt to manipulate the Work For Hire |

Page 115 1 B. Rose 2 document, attempt to create fraudulent Work For 3 Hire documents, from all the manipulation of the computer we see in this case I think it is 4 5 absolutely clear that the StreetFax e-mails, that those e-mails are genuine, were sent by Paul 6 7 Ceglia and contain the authentic contract, so I 8 think the probability that Mr. Ceglia sent those, 9 regardless of where he was at any particular 10 point in time, is exceedingly high. 11 So it's your testimony that if at the Ο. 12 precise moment those e-mails were sent he was in 13 Florida or New Mexico when these were sent from 14 New York, same probability he sent them as if he 15 was in Buffalo? 16 His location would not change my Α. 17 assessment that Paul Ceglia sent those because I think the evidence is absolutely overwhelming. 18 19 The only thing that would do would 20 change my conclusion about the form of access to 21 the computer, it would not impact my 22 determination as to who sent it at all because, 23 again, the forensics in this case is absolutely 24 overwhelming. 25 Outlook Express, which was the e-mail Q.

Page 116 1 B. Rose 2 account from which this was sent, has the 3 capacity to synchronize with a Web-based account; true? 4 5 As a general principle, yes, that's Α. 6 true. 7 Do you find any evidence that this Q. 8 Outlook Express account was unable to synchronize with a Web-based account? 9 10 Again, you know, I don't know the Α. No. 11 specifics in terms of versioning and how and what 12 particular data was syncing, you know, those can 13 vary across time, so I don't know how this version 14 of Outlook Express operated in conjunction with 15 an Adelphia account, but I have no reason to 16 believe that there wasn't some syncing capability 17 because that's generally something that Outlook 18 Express offers. 19 Q. And when Outlook Express synchronizes, 20 when it's set up that way, with an external 21 e-mail account, it can synchronize and pull down 22 everything, the inbox, the deleted files, 23 attachments, et cetera; true? 24 Α. I think it depends, again, on how it's 25 set up to sync. There is certainly a possibility

Page 117 1 B. Rose 2 that -- and by deleted items I assume you are 3 talking about deleted items that still physically reside in some kind of trash bin or something. 4 5 Yes, that is possible. Ο. 6 Α. There are certainly programs that sync 7 everything, there are programs that sync only the 8 inbox, there are programs that sync the inbox and 9 the sent mail, there are programs which sync 10 everything, it really depends, and a lot of 11 programs can be configured in different ways, so, 12 I mean, as a general matter, if you're asking me 13 is it possible, do there exist programs in the 14 world that allow you to sync the entire contents 15 of a Web mail account to a program like Outlook 16 Express, yes, that's true. 17 And I'm asking about Outlook Express Ο. 18 specifically, does it have the capability to 19 synchronize with a Web-based e-mail account? 20 It does, again, but, you know, what Α. 21 items specifically are synced I think could vary 22 from version to version and from configuration to 23 configuration, so as to this version of Outlook 24 Express, I don't know. 25 As a general principle, yes, Outlook

| Page 118 |
|----------------------------------------------------|
| B. Rose |
| Express does sync with Webmail accounts. |
| Q. So if I have an Outlook Express account |
| and I have it synchronizing with my Web-based |
| account and I'm nowhere near my office computer |
| which has Outlook Express on it, but I'm here at |
| the offices of Gibson, Dunn and I get online to |
| my Web-based e-mail, the one that's synchronizing, |
| and I send an e-mail out with a couple of |
| attachments. |
| Are you with me so far? |
| A. Yes. |
| Q. Okay. |
| And I go back to my office two days |
| later and turn on my computer and Outlook Express |
| is configured to synchronize my entire inbox and |
| sent e-mails with my Web-based account. |
| You'd agree with me that that function |
| would pull down from my Web-based account an |
| e-mail that I sent here at Gibson, Dunn along |
| with the attachments that I sent? |
| A. So your hypothetical is if you from |
| Gibson, Dunn sent two e-mails using your Webmail |
| account and then you returned to your offices and |
| opened Outlook Express would it sync? |
| |

| | Page 119 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | I mean, I think that would depend on |
| 3 | how it was configured. My guess would be you |
| 4 | would actually probably have to access the |
| 5 | Webmail account being synced, and I don't know |
| 6 | that there's |
| 7 | Q. But depending on how it was configured, |
| 8 | that could happen? |
| 9 | A. Again, I think if you went and you |
| 10 | accessed your Webmail account and it was set up |
| 11 | to sync, yeah, I would think that certainly would |
| 12 | be possible. |
| 13 | Q. Let's talk about the you are |
| 14 | familiar with the getzuck e-mail account, it's in |
| 15 | your report? |
| 16 | A. Yes. |
| 17 | Q. And you claim there that Mr. Ceglia |
| 18 | deleted e-mails from that account. |
| 19 | A. Can I go to the part of the report |
| 20 | where we discuss that? |
| 21 | Q. Let me ask you, do you recall that |
| 22 | conclusion, that he deleted e-mails from the |
| 23 | account? |
| 24 | A. I recall the conclusion that e-mails |
| 25 | had been deleted from the account, it is in my |

recollection that we had evidence that that account had been in use through 2011 and that there were no e-mails existing in the account prior to sometime in January, so the logical conclusion is that something has been deleted. Now, by the phrase you just used, the account was in use, you mean the account was

B. Rose

Page 120

9 opened at a certain date, that's what you're 10 calling in use? 11 Α. That's not what I'm calling in use. 12 What I'm calling in use, I'm saying the 13 account was actually used, not just opened. And used for -- in what way? 14 Ο. 15 I would have to refresh my recollection Α. 16 with the report for the specifics. I know it was 17 used -- it was used in some way in connection 18 with a receipt of something from Facebook or 19 something like that, we found evidence of that, 20 and so it was evidence of actual use and not just 21 the fact that the account was opened. 22 Q. Let's look at page 52 of your -- of the 23 Exhibit 21 you have in front of you --

24 Α. 52, the top page?

Yes.

25 Q.

1

2

3

4

5

6

7

8

Q.

| 1B. Rose2And I think section D is | whome were talk |
|------------------------------------------|-----------------|
| 2 And I think section D is | where were talk |
| | where you talk |
| 3 about deletion of data from the get | tzuck Webmail |
| 4 account. | |
| 5 Do you see that? | |
| 6 MR. SOUTHWELL: Are you a | referring to |
| 7 Exhibit 1? | |
| 8 MR. BOLAND: What did I s | say? |
| 9 MR. SOUTHWELL: You said | Exhibit 21. |
| 10 MR. BOLAND: I'm sorry, H | Exhibit 1. |
| 11 Thank you for the correct | tion. |
| 12 MR. SOUTHWELL: And we're | e on page 52 in |
| 13 the upper right? | |
| 14 MR. BOLAND: Page 52. | |
| 15 A. Yes. | |
| 16 Q. So the activity that you | found |
| 17 correct me if I'm wrong was that | t the Ceglia |
| 18 media was used to read an e-mail or | n April 18, |
| 19 2011. | |
| 20 Do you see that phrase th | nere? |
| 21 A. Mm-hm. | |
| 22 Q. And that was an e-mail re | eceived from |
| 23 Facebook, actually, on the activation | ion of a |
| 24 Facebook account; right? | |
| 25 A. Yes. | |

Г

| | Page 122 |
|----|-------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. And do you know how Facebook accounts |
| 3 | get set up? |
| 4 | A. Not specifically. |
| 5 | Q. Do you know if Mr. Ceglia had to send |
| 6 | an e-mail to someone at Facebook to set up that |
| 7 | account, if you know? |
| 8 | A. I don't know. |
| 9 | Q. So what you do know is an e-mail was |
| 10 | received from Facebook, so there's one; right? |
| 11 | A. Yes. |
| 12 | Q. And there's no evidence you found of |
| 13 | any e-mails being sent from that account; true? |
| 14 | A. I believe the evidence we have, again, |
| 15 | is the evidence that's outlined here, that that |
| 16 | e-mail address was used to receive an e-mail |
| 17 | related to the Facebook account, yes. |
| 18 | Q. And so my question is, no evidence that |
| 19 | e-mails were ever sent from that account; true? |
| 20 | A. Well, I don't know whether that's the |
| 21 | case because I don't know whether in fact the |
| 22 | post-January 28, 2012 e-mail included sent |
| 23 | e-mails or not. |
| 24 | Q. I'm just saying your report doesn't |
| 25 | show any evidence that he ever sent an e-mail |

Page 123 1 B. Rose 2 from that account. 3 True? Α. Again, that's not relevant to our 4 5 report; right? We received that e-mail data, we looked 6 7 at it for only two things; one, we reviewed it 8 for presumptively relevant materials that would 9 be produced to you and then subsequently to 10 Gibson, Dunn to pass privilege review. 11 We identified no such data in the existing data. We did know from an Internet 12 13 analysis from the Ceglia media that in fact that 14 e-mail was in use for the purposes of receiving 15 an e-mail from Facebook in April 2011 and despite 16 that there was no content for any of 2011 up to 17 January 28th of 2012. That indicates to me the e-mail's been deleted. I don't know who deleted 18 19 it, I don't know what the activity was that led 20 to the deletion, I don't know how much data was 21 received or sent prior to January 28, 2012. 22 Your question to me was do I have any 23 evidence that it was used to send e-mail. 24 What I'm saying is it's possible that 25 we have sent e-mail from after January 28, 2012.

Page 124 1 B. Rose 2 I don't know, because my only analysis of that 3 media, of that data was to see whether there were presumptively relevant materials. 4 5 But I'm talking about your conclusion 0. that my client did have e-mails in that account 6 7 and he deleted them. 8 It's fair to say your report indicates 9 that he actually had e-mails which he deleted 10 from that account; true? 11 Yes, based on the conclusion, again, Α. 12 that we have evidence it was in use and there's 13 no e-mail. 14 Ο. All right. 15 Let's ask about the Harvard e-mail 16 account of Mr. Zuckerberg. 17 You are aware that there are no e-mails at all in that account from -- related to 18 19 Mr. Ceglia and Zuckerberg from, the earliest one 20 being June 2003, you are aware of that, that's 21 the earliest e-mail? 22 Α. I have not done a date analysis of that 23 e-mail, no. 24 Q. Well, your team worked to produce the 25 e-mail that was provided us from that account;

| | Page 125 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | true? |
| 3 | A. Correct. |
| 4 | Q. And were you aware that the e-mail that |
| 5 | your team produced using a variety of search |
| 6 | terms which included my client's name and |
| 7 | Mr. Zuckerberg didn't produce a single e-mail |
| 8 | between those two individuals until June of 2003? |
| 9 | Are you aware of that? |
| 10 | A. I am not aware of the content of that |
| 11 | production. |
| 12 | Q. All right. |
| 13 | Well, let's say that that's what |
| 14 | happened, okay, let's use a hypothetical. |
| 15 | Are you aware that the contract in this |
| 16 | case, the paper contract that's being disputed |
| 17 | has a signing date of April 28, 2003? Are you |
| 18 | aware of that? |
| 19 | A. Again, I don't think I've seen the |
| 20 | paper contract. |
| 21 | Q. Copies that you've seen. |
| 22 | A. Yes, the copies I've seen have a signing |
| 23 | date of that date. |
| 24 | Q. Okay. |
| 25 | And April is before June in the |
| | |

Page 126 1 B. Rose 2 calendar; right? 3 Well, April 2003 is before June 2003. Α. Q. Correct. 4 5 And would you agree with me, then, if there are no e-mails that you were able to 6 7 recover, your team, from Mr. Zuckerberg's Harvard 8 account from April to June of 2003, that 9 Mr. Zuckerberg must have deleted them? 10 MR. SOUTHWELL: Objection. 11 I am asking if that's your conclusion Ο. 12 based on that hypothetical, if there's no e-mails 13 from April of '03 when the contract was signed 14 between the parties and June of '03, which was the first e-mail that we were provided, they must 15 16 have been deleted? 17 Α. That would not be my conclusion. 18 Q. Very well. 19 But it is your conclusion that my 20 client had the getzuck e-mail account in use and 21 because there's no e-mails in it, it's been 22 deleted? 23 Α. Excuse me --24 Q. Just let me finish the question. 25 Α. Excuse me, you keep misrepresenting

Page 127 1 B. Rose 2 what I said. 3 What I said was --Q. Sir, I'm asking the questions. 4 Ι 5 didn't finish my question. And I'm answering the question. 6 Α. 7 What I said was that this e-mail 8 account was in use prior to January 28, 2012, 9 there was data in there. 10 MR. BOLAND: I am going to object to 11 this entire answer. There's no question 12 pending. I'm going to object to everything 13 he is saying and ask that it all be stricken from the record. 14 15 Α. I absolutely was clear with you that I 16 can't say who deleted --17 MR. BOLAND: You know, if we need to 18 dial up the judge, Mr. Southwell, and ask 19 him to instruct the witness to answer 20 questions, I'll be happy to take a break and 21 do that. 22 MR. SOUTHWELL: He answered your 23 I'm looking at the transcript question. 24 right here, he answered your question. 25 Why don't you let him finish.

Page 128 1 B. Rose 2 MR. BOLAND: I didn't finish my 3 question before he started speaking. MR. SOUTHWELL: There was a question, a 4 5 question mark and then he proceeded. 6 Ο. It's your position that Mr. Ceglia 7 deleted e-mails from the getzuck account? 8 It is my position that e-mail was Α. 9 deleted from the getzuck account. 10 So your answer is yes? Q. 11 My answer is not yes. Α. 12 Your question was my position is 13 Mr. Ceglia deleted the e-mail. I am being very 14 clear with you that my position is there was 15 e-mail in that account prior to January 28, 2012 16 that is no longer there, meaning that it was 17 deleted. I'm offering no opinion whatsoever 18 19 -- let's be clear about this -- as to how that 20 e-mail was deleted or as to who deleted it, so the answer to your question is no. 21 22 Q. How many e-mails were deleted? 23 I do not know what was deleted, I do Α. 24 not know what content was in that account. 25 Again, what I know is that that account

Page 129 1 B. Rose 2 was in use prior to January 28, 2012, we know it received at least one e-mail. There is no data 3 in that account, so something has been deleted; I 4 5 can't tell you who deleted it, I can't tell you what has been deleted because that e-mail is 6 7 qone. 8 When were the e-mails deleted from that Ο. 9 account? 10 I cannot tell you that except to say Α. 11 that it was prior to January 28th of 2012. 12 Can a person set up an e-mail account Q. 13 and not ever send an e-mail using that account? 14 Α. Yes. 15 What evidence do you have that Q. 16 Mr. Ceqlia set up this account and actually sent 17 e-mails out to someone? 18 Α. Again, the only evidence we would have 19 is if the post-January 28, 2012 e-mail includes 20 sent e-mail. 21 I don't have that information in front 22 of me, I don't know whether that's the case or 23 not. I don't have evidence right now that I can 24 rely on to tell you that Mr. Ceqlia set up that 25 account and sent e-mail from it.

Page 130 1 B. Rose 2 Q. In your report you talk about a Hex 3 editor. Do you recall that? 4 5 Α. I do. And it's true that your analysis did 6 Ο. 7 not find -- well, let me back up. 8 A Hex editor is a computer program? 9 Α. Yes. 10 You did not find any evidence of a Q. 11 computer program in the category of Hex editor 12 installed on any of the media that you analyzed? 13 Α. No. We found evidence of the use of a 14 Hex editor, but you're correct, we did not find 15 the actual Hex editor installed on the computer, which, frankly, is not surprising given that 16 17 people who use Hex editors generally delete them. And the anomalies that you found that 18 Q. 19 you attributed to a Hex editor, is a Hex editor 20 the only program that can create those anomalies, 21 if you know? 22 Α. Can I go to the page where we discussed 23 the --24 Q. Very well. So, I mean, so I think it depends on 25 Α.

VERITEXT REPORTING COMPANY www.veritext.com

Page 131

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | what anomalies you're talking about. I mean, I |
| 3 | think what we discuss is the fact that there are |
| 4 | six documents which I think, you know, including |
| 5 | ones named test document, including ones which |
| 6 | have the content that says I'm going to |
| 7 | essentially test how the Hex editor worked, and |
| 8 | it's not a direct quote, and I would give you the |
| 9 | direct language, but it's been redacted from this |
| 10 | report, that leads to our conclusion that in |
| 11 | fact, you know, this is consistent with someone |
| 12 | using a Hex editor to try to forge a document. |
| 13 | As to the second anomaly, which is is |
| 14 | in this sfwebworkforhiremz.doc which is an |
| 15 | anomaly in the metadata, depending on whether it |
| 16 | was viewed through, you know, Metadata Assistant, |
| 17 | which is a common tool we use, or a forensic |
| 18 | program like EnCase. |
| 19 | I think, based on the evidence, the |
| 20 | only reasonable conclusion is that this was the |
| 21 | result of a Hex editor; whether that is the only |
| 22 | possible explanation for that I don't know. |
| 23 | Q. And what other explanations are |
| 24 | possible? |
| 25 | A. I don't know. |
| | |

Page 132 1 B. Rose 2 Q. The Hex editor in this case you claim 3 was used to manipulate metadata on a file; correct? 4 5 Α. In one instance. Well, what was it used for in the other 6 Ο. 7 instance? Α. It was actually used to create a 8 9 fraudulent document, it was used to test how the 10 Hex editor worked, it was used to essentially, I 11 think, merge documents together to try to create 12 a fraudulent document that appeared as if it was 13 one document. 14 I would say, frankly, that based on all 15 the evidence that it was your client's attempt to 16 manipulate the Work For Hire document and create 17 a fraudulent document. So the Hex editor was used to alter 18 Q. 19 metadata is one of your conclusions; right? 20 Α. Yes. 21 What other ways can metadata be altered Ο. 22 other than a Hex editor, or is that the only way, 23 if that's what your testimony is going to be? 24 Α. Again, I think the anomaly we see here, 25 which is it being -- it's not just manipulated

Page 133

| | - |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | metadata, it's what we see, which is that when |
| 3 | you view it in metadata assistant you essentially |
| 4 | get no metadata. |
| 5 | When you view it in a forensic tool, |
| 6 | what you see is the metadata, although it is |
| 7 | interspersed with machine code. I think that |
| 8 | particular circumstance I don't know that |
| 9 | there is any explanation for that other than the |
| 10 | use of a Hex editor, but, again, if you are |
| 11 | asking me whether anything else is possible, I |
| 12 | don't know whether there are any other |
| 13 | explanations, I don't think there are any likely |
| 14 | explanations given those circumstance. |
| 15 | Q. That's not my question. |
| 16 | What other ways can metadata be altered |
| 17 | is my question, generally. |
| 18 | A. I mean, there are programs which allow |
| 19 | you to manipulate metadata. |
| 20 | Q. For example, can you list some of those? |
| 21 | A. I don't know the names of the programs. |
| 22 | I mean, there are some open source tools that do |
| 23 | it, I know there are some software versions you |
| 24 | can buy that allow you to do it, I don't know the |
| 25 | names. |
| | |

| | Page 134 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. How about if I copy files from my |
| 3 | computer on a CD and give them to you and you |
| 4 | copy them out of your computer at your office, |
| 5 | can metadata change during that process associated |
| 6 | with those files? |
| 7 | A. Metadata can change, yes. |
| 8 | Q. And that's not intentional change, it |
| 9 | just happened in that process, the hypothetical |
| 10 | that I gave you? |
| 11 | A. Are you talking about like an update of |
| 12 | a creation date or an access date? |
| 13 | Q. Yes. |
| 14 | A. That can happen through ordinary usage. |
| 15 | This particular circumstance cannot |
| 16 | happen through ordinary usage. |
| 17 | Q. How did you rule out ordinary usage as |
| 18 | not a possible cause of that, how did you rule |
| 19 | that out? |
| 20 | A. The ordinary update of a file I |
| 21 | mean, you're right, if I have last 10 authors |
| 22 | metadata and I go on and I change the document, I |
| 23 | am going to now be the first last 10 author and |
| 24 | one of the names is going to drop off, that is a |
| 25 | common alteration if I am going to write the |

VERITEXT REPORTING COMPANY www.veritext.com

Page 135

1 B. Rose 2 document. To have this, last 10 authors metadata 3 with all of these question marks that essentially 4 5 metadata assistant is returning me the idea that there's no metadata here, that's an anomaly, 6 7 that's not caused by ordinary usage of a file, 8 and the fact that I can now view it in EnCase 9 Forensic and see what some of the metadata is, 10 including the file path, that indicates to me a 11 Hex editor was been used. That is not -- this 12 pattern where metadata assistant cannot give me 13 any metadata does not happen merely because we exchanged a file and somebody modified it. 14 15 So the only cause for that is a Hex Q. 16 editor is your opinion? 17 I think the only reasonable explanation Α. for these facts is that a Hex editor was used. 18 19 Q. That's not my question. 20 Is that the only way that that happened? 21 Again, I think I've answered this Α. 22 before. I don't know whether anything else is 23 theoretically possible. I'm drawing a conclusion 24 based upon the evidence I see. In this case I 25 don't think there's a reasonable explanation for

Page 136 1 B. Rose 2 this other than the fact that a Hex editor was 3 used. Theoretically possible? 4 5 I don't know one way or the other. Those 15 to 20 computers of 6 Ο. 7 Mr. Zuckerberg's that someone on your team evaluated, was there evidence of Mr. Zuckerberg 8 9 using those computers to electronically 10 communicate with anyone? 11 MR. SOUTHWELL: Objection, calls for 12 speculation. He already said he was not 13 involved with that. 14 If you know. Ο. 15 I am not aware one way or the other. Α. 16 MR. BOLAND: Can we take it about a 17 10-minute break? 18 MR. SOUTHWELL: Are you close to being 19 done? 20 MR. BOLAND: I don't know. I'm going 21 to take a break and sort of assess where I'm 22 at. 23 MR. SOUTHWELL: We can go off the 24 record. 25 (Recess taken.)

Page 137 1 B. Rose 2 THE VIDEOGRAPHER: The tape is rolling. BY MR. BOLAND: 3 Mr. Rose, we are back on the record. 4 Q. 5 I want to go back over a couple of 6 things that, just a couple of questions on a 7 topic or two that we already discussed. Did your team -- your team evaluated 15 8 9 or 20 computers that Mr. Zuckerberg used historically; right? 10 I don't know that I would it call my 11 Α. 12 team; Stroz Friedberg personnel did, yes, 13 correct. 14 I'll be clear, Stroz Friedberg 0. 15 personnel, right. 16 I am not going to ask you again, but we 17 already determined you don't know who actually did the analysis or who supervised; true? 18 19 Α. Correct. 20 Did Stroz Friedberg rely on the Q. 21 analysis of those computers in coming to the 22 conclusions in your report that you filed in this 23 case? 24 Α. Well, we -- I mean, we didn't find 25 anything relevant on those devices so no, the

Page 138 1 B. Rose 2 answer is no. 3 If you had found something relevant on Ο. those devices would you have inserted it into 4 5 this report? I mean, you know, we 6 Α. I don't know. 7 were -- we were asked to look at the authenticity 8 or inauthenticity of the document and to examine 9 Ceglia media, so we had to consider how that fit 10 into what the Court had asked us to do, but in 11 general, if we had found something in there that 12 I think, you know, was, it was relevant, I think 13 we would have considered including it, certainly. 14 The Kole e-mail that we had some Ο. 15 discussion about, is it possible that someone 16 other than Paul Ceglia, physically possible that 17 someone else other than Paul Ceglia could have sent that e-mail? 18 19 Α. Is it physically possible? 20 I suppose anything's possible. 21 So the answer is yes, it's possible? Q. 22 Α. Yes. 23 I know you've concluded otherwise; Ο. 24 true? 25 I think it's implausible, but it's Α.

Page 139 1 B. Rose 2 certainly theoretically possible. 3 Have you ever in either your personal Ο. or professional work used the copy-and-paste 4 5 function on some content on the Internet and then pasted into a document? 6 7 Α. Yes. 8 Q. And are you familiar with one of the 9 common programming file formats for the Internet 10 is HTML? 11 Α. Yes. 12 And when you've copied and pasted Q. 13 stuff from the Internet to a document has that 14 process ever resulted in that content's 15 formatting being different in the document from 16 what it looked like on the Internet? 17 Α. Yes. In the conversation we had about the 18 Ο. 19 Hex editor, I need to be a little more precise in 20 my question about one of the areas there. 21 Can you detail for me, list for me the 22 computer forensics evidence that supports your 23 conclusion that the person who used the Hex 24 editor was Paul Ceglia? 25 Can you repeat that question? Α. I'm

| | Page 140 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | sorry. |
| 3 | Q. Yes. Let me clarify. |
| 4 | A. Sure. |
| 5 | Q. I am aware from your report that you |
| 6 | believe, at the very least, a Hex editor was used |
| 7 | to manipulate some metadata. |
| 8 | Is that a fair statement? |
| 9 | A. Yes. |
| 10 | Q. It was used? |
| 11 | A. Yes. |
| 12 | Q. And you detailed the forensic evidence |
| 13 | that you believe supports that opinion. |
| 14 | Now what I'm asking you is not the |
| 15 | forensic evidence that supports that it was used, |
| 16 | but what, if any, computer forensics evidence |
| 17 | supports the conclusion that Paul Ceglia used the |
| 18 | Hex editor? |
| 19 | And I'm saying forensic evidence. |
| 20 | A. Sure. |
| 21 | So the six documents that were created, |
| 22 | their names, for instance, document created to |
| 23 | copy out of test doc, that I think is very |
| 24 | clearly a pattern to try to create a merged |
| 25 | forged document. Whether that was done by I |

VERITEXT REPORTING COMPANY www.veritext.com

Page 141

| | - |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | think that was clearly done by someone with |
| 3 | motivation to create a fake document. In this |
| 4 | case the person with the motivation to create a |
| 5 | fake document, the person with the greatest |
| 6 | motivation is obviously Mr. Ceglia, who is |
| 7 | attempting to rely on it to support a claim worth |
| 8 | a tremendous amount of money, and whether it was |
| 9 | actually Mr. Ceglia did that or somebody working |
| 10 | in concert with Mr. Ceglia, I don't know, but I |
| 11 | think it's somebody clearly with motivations to |
| 12 | create a false document and in this case I think |
| 13 | the person with the greatest motivation is |
| 14 | Mr. Ceglia. |
| 15 | Q. And how do you know what his motivation |
| 16 | is? |
| 17 | A. How do I know what his motivation is? |
| 18 | Q. How did you determine what his |
| 19 | motivation is? |
| 20 | You just talked about his motivation. |
| 21 | How did you determine that? |
| 22 | A. My understanding is he claims to, based |
| 23 | on a contract, own half of Facebook. That seems |
| 24 | like clear motivation to me, but |
| 25 | Q. Clear motivation to do what? |
| | |

Page 142 1 B. Rose 2 Α. He's made a claim for half of Facebook, 3 and clearly your motivation there is money, right? Facebook's a tremendously valuable 4 5 organization. I think the motivation is money. 6 The motivation, then how do you get a 7 claim? 8 Well, he can't base it on the real 9 document, the StreetFax contract, because that 10 doesn't mention Facebook, so I think the 11 motivation to create a false document is to try 12 to create something which is not real and didn't 13 exist in 2003 and is not a contract between Mark 14 Zuckerberg, but which appears to be a contract on 15 which you can support a claim. 16 I mean, your motivation, your ultimate 17 motivation is money. The actions taken are, you know, all of this, it's not just the Hex editor, 18 19 but all of this evidence of manipulation of 20 documents and fraud in an attempt to support that 21 claim. 22 Q. But you don't have any opinion --23 you're not challenging any of the plaintiff's 24 experts' opinions that the paper, two-page paper 25 document is real?

VERITEXT REPORTING COMPANY www.veritext.com

| | Page 143 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I'm limiting to digital forensics, I |
| 3 | haven't considered the paper at all, I have no |
| 4 | opinion about that. |
| 5 | Q. You are not challenging any of their |
| 6 | claims? |
| 7 | A. I have no opinion about it whatsoever. |
| 8 | Q. Are you challenging any of their claims? |
| 9 | A. I have no opinion about it. |
| 10 | Q. The question is not whether you have an |
| 11 | opinion. |
| 12 | Do you have any evidence to challenge |
| 13 | their claims? |
| 14 | A. I'm not challenging or not challenging |
| 15 | their claims, I have no opinion about their |
| 16 | claims. |
| 17 | Q. Now, you talk about my client's |
| 18 | motivation sort of is outside the realm of |
| 19 | computer forensics, it seems to me, wouldn't you |
| 20 | agree? |
| 21 | His motivation doesn't come out of |
| 22 | metadata or applications or whatever, that |
| 23 | doesn't communicate someone's motivation? |
| 24 | A. I think that's correct, yes. |
| 25 | Q. And you are speculating about his |
| | |

Г

Page 144 1 B. Rose 2 motive? 3 Well, I'm not sure I understand that Α. 4 question. 5 I mean, I think -- I think it is a 6 clear motive. Whether that's actually what's 7 motivating him, I mean, I think it's a fairly 8 clear motive, but I'm not inside his head, if that's your question. 9 10 If his paper contract, which you have Q. 11 no opinion about -- let's have a hypothetical --12 if the paper contract's authentic, then you'd 13 agree with me he doesn't have a motive to fake 14 electronic documents because he's got a real 15 contract. 16 Again, it's a hypothetical. If the 17 paper contract is authentic, he has no motive to create electronic documents? 18 19 So hypothetically, if his paper Α. 20 contract is authentic, I would say that's 21 correct, given the forensic evidence that in fact 22 all of this fraud was attempted, I would say, you 23 know, that the corollary to that is it seems 24 clear that the paper contract is not the genuine 25 contract.

Page 145 1 B. Rose 2 Q. But my question is if you assume it is, 3 so we're not going to talk about it not being authentic, we are assuming it is authentic, then 4 5 he has no motivation to manipulate electronic 6 files; right? 7 I would say that no one has the Α. 8 motivation to manipulate the files and we 9 wouldn't see it on here, but we do, so, I mean, 10 that tells me the contract's not real. Let's talk about motivation. 11 Ο. 12 If the paper contract is real you then 13 would agree with me Mark Zuckerberg has a motivation to do something to call into question 14 15 the authenticity of that paper document. Don't 16 you think he -- he would lose a lot of money too 17 if the paper contract is authentic, wouldn't he? 18 MR. SOUTHWELL: Object to the form. 19 I certainly -- I mean, I guess I don't Α. 20 know personally what he would lose versus, you 21 know, Facebook, who owns what in terms of 22 their -- but I assume it would have a very 23 detrimental financial impact on him where he 24 would have to give up half of Facebook. So my point is about the motivation 25 Q.

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | comment. If the paper contract's authentic then |
| 3 | Mr. Zuckerberg, just like Mr. Ceglia in the |
| 4 | opposite conclusion, has a motivation to try and |
| 5 | fake evidence to prevent that contract from being |
| 6 | enforced; correct? |
| 7 | A. True. And I do think if we had seen |
| 8 | fraud going the other way, right, that the |
| 9 | motivation might play in. If we'd seen, you |
| 10 | know, that evidence that the StreetFax contract |
| 11 | was in fact apparently a fraudulent document, I |
| 12 | would agree with you that, you know, maybe we |
| 13 | would factor in the motivation and that my |
| 14 | conclusion would be that if the StreetFax |
| 15 | contract that we found, if the forensics |
| 16 | indicated it was a fake document, I think a |
| 17 | logical conclusion would be Mr. Zuckerberg faked |
| 18 | it. |
| 19 | That's not what the forensics shows. |
| 20 | The forensics clearly shows that the StreetFax |
| 21 | contract is authentic, there is overwhelming |
| 22 | evidence that there's been fraud perpetrated here |
| 23 | both in the creation of purported e-mails and the |
| 24 | Work For Hire contract relied on by your client. |
| 25 | The same holds true there. Our |
| | |

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | conclusion is that the likely person who would |
| 3 | engage in that kind of fraud is Mr. Ceglia. |
| 4 | Now, whether any specific action was |
| 5 | actually taken by Mr. Ceglia or was done by |
| 6 | someone, you know, sharing the same motivation or |
| 7 | working in concert with him such as use of the |
| 8 | Hex editor, again, I can't pinpoint an individual |
| 9 | for you, but I can say that, you know, I think, |
| 10 | again, Mr. Ceglia is a likely candidate just as |
| 11 | if the forensics had cut the other way, |
| 12 | Mr. Zuckerberg would be a logical candidate, but, |
| 13 | you know, it didn't. |
| 14 | Q. Are you aware that Mr. Zuckerberg was |
| 15 | provided a signed copy of the agreement he |
| 16 | entered into with Mr. Ceglia at the time it was |
| 17 | signed? |
| 18 | A. I am not. |
| 19 | Q. Okay. |
| 20 | Are you aware that there are e-mails |
| 21 | missing from Mr. Zuckerberg's Harvard e-mail |
| 22 | account from periods of time where he was in |
| 23 | communication with Mr. Ceglia? |
| 24 | A. I am not. |
| 25 | Q. And the two TIFF images that make up |
| | |

Page 148 1 B. Rose 2 the StreetFax contract are digital images. 3 We've already talked about that; right? Α. Yes. 4 5 And you don't know where they -- what Ο. 6 device they originated from for sure; correct? 7 Again, not beyond saying they appear to Α. 8 be scanned documents which were then created on 9 the hard drive, you know, on the morning of March 10 3rd, yes. 11 And so they could have been scanned at Ο. 12 any point prior to March 3rd? 13 Α. They could have been. 14 And what computer forensics evidence, Ο. 15 specifically computer forensics evidence about 16 those TIFF images tells you they are the 17 authentic contract between the parties? Not all the other stuff, because I know 18 19 you've gone into that multiple times, just those 20 two TIFF images, what is all the computer 21 forensics data about those images which tells you 22 that's the authentic contract? 23 So, I mean, as an initial matter, let Α. 24 me just say that I think in terms of analysis of 25 the authenticity of the StreetFax contract it is

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | impossible from our standpoint to divorce that |
| 3 | from the other evidence that's on the computer, |
| 4 | including evidence that the purported e-mails |
| 5 | were fake, that there was manipulation of |
| 6 | documents, there's backdating of the system clock |
| 7 | on multiple occasions. |
| 8 | Having said that, if you just analyze |
| 9 | that alone, and it's not what we do, right, we do |
| 10 | everything in context, but if you just look at |
| 11 | the TIFF images alone I think you have the fact |
| 12 | that it was found on a computer belonging to |
| 13 | Mr. Ceglia, it was e-mailed to his attorney, it |
| 14 | was e-mailed on March 3rd of 2004, it was |
| 15 | e-mailed through intermediary servers at Adelphia |
| 16 | and Sidley & Austin before residing at Sidley & |
| 17 | Austin. |
| 18 | The fact that Sidley & Austin |
| 19 | maintained a copy of the e-mail, so you have both |
| 20 | the sending side and the receiving side of a |
| 21 | contract, the fact that it was sent via e-mail |
| 22 | that says again, typed, but says Paul to his |
| 23 | attorney saying this is the contract with Mark, |
| 24 | the fact that you have the March 4th and 5th |
| 25 | e-mail chain where, again consistent with the |
| | |

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | small images you've talked about, Mr. Kole says, |
| 3 | I can't read this, there's a handwritten note, |
| 4 | all of that evidence shows me that this is a |
| 5 | genuine contract. |
| 6 | I mean, frankly, to me, having the |
| 7 | plaintiff produce a piece of media that contains |
| 8 | a contract that does not support his claim and |
| 9 | having the same e-mail that based on a forensic |
| 10 | analysis was purportedly sent to Sidley & Austin, |
| 11 | to have that be produced by Sidley & Austin, I |
| 12 | mean, even if you put all the other evidence |
| 13 | aside, that ends this case, I mean, that is clear |
| 14 | smoking-gun evidence that the StreetFax contract |
| 15 | is the authentic contract e-mailed from your |
| 16 | client to his lawyer at Sidley & Austin and |
| 17 | you've got both sides of the conversation |
| 18 | producing the same identical e-mail chain. |
| 19 | Q. Let me try this way, because you are |
| 20 | not answering my question. |
| 21 | MR. SOUTHWELL: Objection. |
| 22 | Q. Here's a hypothetical, trying to make |
| 23 | this more precise. |
| 24 | If you found an e-mail between Paul |
| 25 | Ceglia and Jim Kole that had a photograph |

| 1 | B. Rose |
|----|----------------------------------------------------|
| 2 | attached to it that showed Paul Ceglia's mother |
| 3 | walking on a wire between two buildings in |
| 4 | downtown New York, okay, like a wire walker, |
| 5 | would it be and you found all of the server |
| 6 | information that you just detailed that went from |
| 7 | here to here to here, all the servers, and Sidley |
| 8 | Austin had a copy of that e-mail on their server, |
| 9 | everything you've just said about that, would it |
| 10 | be your position that that image of his mother |
| 11 | walking on a wire 400 feet in the air is an |
| 12 | authentic picture of an event that actually |
| 13 | happened? Would that be your position? |
| 14 | A. Forgive me if I pause for a minute, |
| 15 | this is an awfully strange hypothetical. |
| 16 | So let's assume I mean, if I have an |
| 17 | e-mail and the e-mail says, Hey, Jim, this is my |
| 18 | mom tightrope walking, Paul |
| 19 | Q. There you go. |
| 20 | A I mean, I guess the question in my |
| 21 | mind would be is there any evidence she is |
| 22 | actually a tightrope walker; right? |
| 23 | I mean, it's sort of an odd |
| 24 | hypothetical because you have posited a photograph |
| 25 | of a woman doing something that very few people |
| 1 | |

Page 152 1 B. Rose 2 in the world could actually do, so the fact that 3 the image itself is fairly unrealistic, again, you know, these are all fairly contextual 4 analyses, then I think it would lead me to 5 question whether -- I mean, it wouldn't lead --6 7 it would clearly be an e-mail sent from, you know, from, I think -- it wouldn't lead me to 8 9 question it was sent from Paul to Jim Kole, it 10 would lead me to question whether it was actually 11 a true image, but just because of the 12 strangeness, in this case, you know, it's a 13 hypothetical which is completely off point to the 14 actual case, which is you have a standard 15 contract being e-mailed from, you know, Paul to 16 his lawyer at Sidley & Austin and a subsequent 17 conversation about it. Well, to be clear, the e-mail was 18 Q. 19 actually e-mailed from an account owned by Vera 20 and Carmine Ceglia; true? 21 Well, let's be careful. Α. 22 It is an account that is registered to Carmine Ceglia. The user name resolves to Vera 23 24 Ceglia and the e-mail is signed -- again, as you 25 pointed out, not a signature, but typed, is Paul.

Page 153 1 B. Rose 2 Q. So do you feel you're qualified to 3 testify about the authenticity of images generally when you see them attached to e-mails, 4 5 you can declare which images are authentic and 6 which images are not? 7 MR. SOUTHWELL: Objection to form. 8 Q. Just yes or no, are you qualified to 9 testify about it? 10 It is not a yes-or-no question, it Α. 11 would depend on the circumstances. 12 I mean, in a case like this where I 13 think you have obvious evidence of authenticity 14 and obvious evidence of fraud, it's a fairly 15 straightforward case. 16 In other cases I could see, you know, 17 you depending again on what the image was and 18 what the question was, in some cases I would say 19 yes and in some cases no, but it would depend on 20 what analysis was needed. 21 If I sent an e-mail to Mr. Southwell Ο. 22 and typed the message, Hey, check out this 23 contract, Alex, signed, and then typed in Bryan 24 Rose, is it your position that you sent that 25 e-mail?

| | Page 154 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | I would assume not. |
| 3 | A. So you're if you sent an e-mail to |
| 4 | Alex and typed Bryan Rose, is it my position that |
| 5 | I sent that? |
| 6 | No. |
| 7 | Q. No. I sent a message saying, Alex, |
| 8 | this is Bryan Rose sending you a contract, and I |
| 9 | typed Bryan Rose, that's not from Bryan Rose is |
| 10 | it? |
| 11 | A. Not if you sent it, no. |
| 12 | Q. Correct. |
| 13 | Just because your name is typed at the |
| 14 | bottom doesn't mean it's sent from you; true? |
| 15 | A. That's true. |
| 16 | Again, if you isolate if you isolate |
| 17 | any individual piece, it's possible to say there |
| 18 | are other possibilities, but, again, that's not |
| 19 | what we do. We analyze the forensic evidence in |
| 20 | the entire context of the case, and so that is |
| 21 | one piece of evidence, the fact that it went to |
| 22 | Jim Kole is another piece of evidence, the fact |
| 23 | that Jim Kole had a handwritten note where he |
| 24 | responds is another piece of evidence, the |
| 25 | evidence of backdating is another piece of |

Г

Page 155 1 B. Rose 2 evidence. 3 This is all part of building a picture of what happened, and so, I mean, if you pull out 4 5 any piece of evidence and say what's possible, that's one thing. 6 7 That's not what we do. We consider it 8 in the context of the entire case and we say what are the reasonable explanations for this, and 9 10 given the forensic evidence in this case, the 11 only reasonable explanation is that the StreetFax 12 contract is authentic and that your client was 13 engaged in a massive fraud to attempt to generate 14 a fraudulent contract, that's the only reasonable 15 explanation for the digital forensics taken as a 16 whole. 17 Ο. You've made that clear. 18 Can we go to page 21 of your report, 19 which is Exhibit 11 --20 You mean the top level? Α. 21 ο. Yes. 22 You just mentioned a response from Jim 23 Kole. 24 This is the document you were referring 25 to; right?

Page 156 1 B. Rose 2 Α. Correct. 3 And can you -- I'm going to be real Ο. specific. 4 5 Can you read the date and time of that 6 e-mail being sent allegedly from Jim Kole? 7 Α. Friday, March 5th, 2004, 11:44 a.m. 8 Ο. So that's a day later than the alleged 9 Kole e-mail was sent to him; true? I believe it's two days later, correct. 10 Α. 11 The Kole e-mails were sent by Mr. Ceqlia on March 12 3rd, 2004. This response appears to be on March 13 5th, 2004, so that's two days. 14 Even better. Ο. 15 Whose handwriting is on the document? 16 What computer forensics evidence tells 17 you who wrote that handwritten note? Based on the context the fact that it's 18 Α. 19 on an e-mail printed out by Jim Kole and the fact 20 that it is giving legal advice about a contract 21 that was put in front of him by Mr. Ceglia, the 22 context indicates to me that it's Mr. Kole's 23 handwriting, but we haven't -- we are not 24 forensic -- we are not handwriting experts and, 25 you know, I couldn't tell you ultimately who

Page 157 1 B. Rose 2 wrote that. 3 And this is a reply to Paul's -- I'm Ο. sorry, this is an e-mail from paulceglia@msn.com 4 5 at the top; right? 6 MR. SOUTHWELL: Objection. 7 Can you just be specific? You're 8 referring to the top from Ceglia to Kole on March 5th or the ones below? 9 10 The very top of the e-mail where it Q. 11 says from paulceglia@msn; isn't that correct? 12 Α. Which one, again, the top level e-mail? 13 Q. The most top level --14 Α. Yes, that is from paulceglia@msn.com. 15 Q. Right. 16 Then let's go down into the body of the 17 e-mail, there's another e-mail referenced there and there's the next word "from" and a colon and 18 19 "to" and a colon. 20 Do you see that? 21 Are we talking about the e-mail Α. 22 immediately below towards the top level, the 23 reply to, yes. 24 Q. Yes. 25 And that's paulceglia@msn as well?

| | Page 158 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | A. Correct. |
| 3 | Q. Let's go a little farther down |
| 4 | underneath a little portion that says "original |
| 5 | message" and under there it says "from," and you |
| 6 | see that says paulceglia@msn again? |
| 7 | MR. SOUTHWELL: The one on March 4th? |
| 8 | A. March 4th, 2004 at 9:49 a.m., yes, |
| 9 | that's correct. |
| 10 | Q. So this, you would agree with me, |
| 11 | appears to be an exchange between, if it's |
| 12 | authentic, Mr. Kole and Mr. Ceglia who is |
| 13 | communicating using his msn account? |
| 14 | A. Correct. |
| 15 | Q. Okay. |
| 16 | And as you pointed out, the |
| 17 | communication that is the Kole e-mail came from |
| 18 | an account registered to Carmine Ceglia with the |
| 19 | user name Vera Ceglia? |
| 20 | A. Correct. |
| 21 | Q. And it's your position that this |
| 22 | represents a reply by Mr. Kole two days later to |
| 23 | the e-mail that came from the Adelphia account? |
| 24 | MR. SOUTHWELL: Objection, |
| 25 | mischaracterizes. |

Page 159 1 B. Rose 2 Α. That's not my position. 3 That is clearly a separate e-mail chain, so the Kole e-mails -- the Kole e-mails 4 5 that were sent on March 3rd are not part of this chain, so, you know, what it looks like, 6 7 Mr. Ceglia sends the March 3rd e-mails to Mr. Kole, then opens up a new e-mail chain using 8 9 his msn account and they go back and forth based on that, and so this is -- so it's not a direct 10 11 reply. 12 What I'm saying is based on the 13 content, right, it appears to be discussing the 14 contract that was provided on March 3rd, 2004, 15 including a reference to the fact that it can't 16 be read. 17 Do you know if it was actually Ο. 18 discussing that blurry TIFF image or another 19 blurry TIFF image? Do you know? 20 Did your forensics analysis tell you 21 what blurry image they're talking about? 22 Α. We only have evidence of one blurry 23 TIFF image, so we have one blurry TIFF image or 24 two blurry TIFF images sent on March 3rd, 2004, 25 and a response here indicating that he's received

Page 160 1 B. Rose 2 blurry TIFF images, which we know he received, right, because we know, A, Sidley & Austin still 3 has them and we know he forwarded them on, so, 4 5 yes, I'm basing that on the context here that when he's referring to blurry TIFF images he's 6 7 referring to the blurry TIFF images we know he 8 received two days before. 9 Ο. And he is referring to the blurry TIFF 10 images he received from the Adelphia account is 11 your position about when you read this e-mail 12 here? 13 Α. That seems to me to be a reasonable 14 inference based on what we know, yes. 15 Q. And how did you rule out someone 16 scanning --17 Α. Again, I'm talking about what --18 Q. Let me finish the question, sir. 19 Yes. Α. 20 How did you rule out additional e-mails Q. 21 with blurry TIFF images sent from Paul Ceglia's 22 msn account to Jim Kole and he's replying 23 regarding that, how did you rule that out? 24 I haven't ruled that out. What I'm Α. 25 saying is what is the likely and reasonable

Page 161 1 B. Rose 2 explanation. 3 How likely is it that an e-mail was Ο. sent by Paul Ceglia from his msn account with 4 5 blurry attachments that he's responding to here, how likely is that? 6 7 Α. Well, I think given the fact that we 8 know he sent blurry TIFF images two days before, 9 it's unlikely. 10 I don't know how to --11 Ο. Why is it unlikely? What do you know 12 about Mr. Ceglia's personal habits that make it 13 unlikely in that two-day period he did not send 14 blurry TIFF images to his lawyer by his msn 15 account? 16 I think it's probably unlikely he's Α. 17 sending multiple copies of blurry TIFF images, but --18 19 Why is it unlikely? How did you Q. 20 determine that? 21 It seems to me people don't generally Α. 22 do that, but, you're right, he could have sent a 23 thousand blurry TIFF images, it seems exceedingly 24 unlikely to me, but I have not ruled it out. 25 Why is it unlikely? Q.

Page 162 1 B. Rose 2 Α. Again, I think I've answered that 3 It seems to me that if you have a question. reference to an attorney having been sent blurry 4 5 TIFF images and we know that two days before he was sent blurry TIFF images that we know he 6 7 received, the likely explanation is that he's 8 referring to those TIFF images. I have not ruled 9 out the fact that he's referring to other TIFF 10 images. 11 Ο. And there's an intervening two-day 12 period between the Kole e-mail and this one; 13 right? 14 Α. Correct. 15 And the Kole e-mail and this one were Q. 16 sent with two different e-mail accounts? 17 I'm sorry, the Kole e-mail is sent with 18 an Adelphia account; true? 19 The Kole e-mail was sent from -- yes. Α. 20 And these exchanges with Mr. Kole are Q. 21 sent by Mr. -- are with Mr. Ceglia at his msn 22 account; correct? 23 Correct. Α. 24 Q. Okay. 25 So for two days some number of

Page 163 1 B. Rose 2 e-mails we will never know, right, went back and 3 forth between Mr. Kole and Paul Ceglia from his msn account. 4 5 You don't know how many they sent back 6 and forth during those two days, do you? 7 Well, I know -- I mean, based on the Α. evidence we have, it would appear to be as if the 8 e-mail chain here is four e-mails. 9 10 Whether, you know, how many more than 11 that, that puts a lower limit on it. I can't 12 tell you how many e-mails would be in the entire 13 chain. 14 And they could have simultaneous Ο. 15 different threads going back and forth that 16 aren't even included here; right? 17 They could. Α. 18 Q. So you don't know? 19 I don't. Α. 20 Now, your report also challenges Q. 21 generally the authenticity -- let me back up. 22 Are you aware that there have been two 23 documents -- two categories of documents 24 submitted to the Court thus far as attachments to 25 pleadings that Mr. Ceglia is claiming are

Page 164 1 B. Rose 2 authentic, one of which is the two-page paper 3 contract -- you're aware he's claiming that's authentic; right? 4 5 Α. Yes. You are referring to the Work For Hire, what we call the Work For Hire document? 6 7 Yes. Q. 8 Α. Yes. 9 Ο. And he's also attached to an amended 10 complaint copies of e-mails that he exchanged 11 with Mr. Zuckerberg which he's claiming are 12 authentic e-mails exchanged with Mr. Zuckerberg. 13 MR. SOUTHWELL: Objection. That's not 14 in evidence, he didn't attach any e-mails. 15 He attached documents to an amended Q. 16 complaint purporting to be copied and pasted 17 e-mails between him and Mr. Zuckerberg. Take a look at the 18 MR. SOUTHWELL: 19 complaint, there's nothing attached. 20 It's attached -- well, let's just Q. 21 assume you've evaluated e-mails that he claims to 22 have exchanged with Mr. Zuckerberg; true? You 23 took a look at them? 24 We have evaluated Word documents Α. 25 containing what appear to be cut and paste --

| | Page 165 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. Well, my client admits they are copied |
| 3 | and pasted into the Word document, does he not? |
| 4 | A. Well, I should say that are claimed to |
| 5 | be cut and pasted. |
| 6 | I mean, I am aware that Mr. Ceglia |
| 7 | claims to have Word documents containing e-mails |
| 8 | that purportedly support his claim. We |
| 9 | identified in our forensic analysis three Word |
| 10 | documents that we believe to be those e-mails. |
| 11 | Q. And you analyzed them? |
| 12 | A. Correct. |
| 13 | Q. And there's at least two areas of that |
| 14 | analysis which support and maybe there's more, |
| 15 | you can correct me your claim and your report |
| 16 | that those e-mails are fakes, so let's go over |
| 17 | them. |
| 18 | One of the areas is the Coordinated |
| 19 | Universal Time as it appears in those e-mails is |
| 20 | incorrect based on the fact that it was Daylight |
| 21 | Savings Time at the time they were sent; right? |
| 22 | A. So, yes |
| 23 | Q. Is that the e-mails |
| 24 | A. There is a group of e-mails, I believe |
| 25 | it is sent between October 2003 and April 2004 at |

| 1 | B. Rose |
|----|----------------------------------------------------|
| 2 | which point Eastern Standard Time would have been |
| 3 | in effect and the offset that's in the e-mails |
| 4 | appear to be Eastern Daylight Time which is an |
| 5 | anomaly which shouldn't occur. |
| 6 | Q. Right, that's one area. |
| 7 | And the second area you indicate in |
| 8 | your report is formatting and differences between |
| 9 | these e-mails, for example and I think you |
| 10 | might remember this one, in one of the e-mails |
| 11 | the word "Tuesday" is spelled out and in the |
| 12 | other one it's abbreviated, things like this is |
| 13 | one of the other ares that you indicate supporting |
| 14 | your belief that those are fraudulent; true? |
| 15 | A. Yes, and that's inconsistencies that |
| 16 | they both between the way those should appear, |
| 17 | for instance, the way, you know, Microsoft |
| 18 | Hotmail would abbreviate Tuesday and the way it's |
| 19 | actually abbreviated in the e-mails themselves, |
| 20 | so Microsoft, you know, abbreviates it T-u-e, if |
| 21 | you cut and paste it out it should not say |
| 22 | T-u-e-s, and I know you asked questions earlier |
| 23 | about whether formatting differences can be |
| 24 | introduced during cut and paste; that's true, |
| 25 | but, for instance, the addition of an "s" is not |
| | |

| | 5 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | a formatting difference that would occur, so I |
| 3 | think that's clear evidence of fraud. |
| 4 | There's also inconsistencies among the |
| 5 | documents themselves, so after the "from," colon, |
| 6 | sometimes there's one space, sometimes there's |
| 7 | two, after the "to" there are an inconsistent |
| 8 | number of spaces, there are various formatting |
| 9 | inconsistencies like that and, again, going back |
| 10 | to your point about copy and paste, to the extent |
| 11 | I copy and paste out Hotmail documents and the |
| 12 | formatting change, I would expect it to change in |
| 13 | a consistent way, I wouldn't expect the copy-and- |
| 14 | paste operation to, for instance, insert two |
| 15 | spaces after "to" sometimes and three in another |
| 16 | and one in another. |
| 17 | Q. Why would you expect it to do it in a |
| 18 | uniform way? |
| 19 | A. Generally because, again, when you |
| 20 | are cutting and pasting, if you are cutting from |
| 21 | the same source to the same source, what you |
| 22 | would expect to see is a consistent change. |
| 23 | Q. Did Mr. Ceglia cut from the same source |
| 24 | to the same source? |
| 25 | A. My understanding is he's cutting from |
| | |

Page 168 1 B. Rose 2 his Hotmail account, yes. On what computer was he copying that 3 Ο. 4 from? 5 Α. He is copying it from his account, it wouldn't matter what computer he's copying it 6 7 from, you're copying from an Internet Webmail 8 account, the data is residing on Hotmail servers, 9 it wouldn't matter what computer he's using. 10 Would it matter what browser he's Q. 11 using? 12 All browsers format Web mail the same; 13 is that your position? 14 Well, so for the T-u-e-s, right, that Α. difference and --15 16 No. I'm asking you do all browsers --0. 17 You asked me a question, I'm trying to Α. 18 answer the question. 19 MR. BOLAND: He is rephrasing the 20 question. 21 MR. SOUTHWELL: He is answering your 22 question. 23 Do all browsers format Webmail accounts 0. 24 the same? 25 Α. No.

Page 169 1 B. Rose 2 Q. What browser was Mr. Ceglia using when 3 he copied and pasted each one of these e-mails? Α. I don't know. 4 5 Ο. How did Hotmail function when it came 6 to abbreviations of things like Tuesday in 2004? 7 It abbreviated it T-u-e. Α. 8 Ο. How do you know that? 9 Α. I think we've tested, we've seen the 10 way it format, Hotmail formulates Tuesday and it 11 is T-u-e. 12 In 2004 you ran tests to confirm that? Q. 13 Α. My understanding is that we confirmed 14 that in fact that's the way Hotmail abbreviates 15 T-u-e. 16 Where do you get that understanding? Ο. 17 So that understanding was passed --Α. that information comes from, I believe, directly 18 19 from Mike McGowan. 20 So it's your testimony that Mike Ο. 21 McGowan in 2004 tested the Hotmail server? 22 Α. No, that's not my testimony. 23 Q. Okay. 24 How did he determine in 2004 that's how 25 Hotmail worked?

| | Page 170 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I don't know how he determined that. |
| 3 | Q. To the best of your recollection he's |
| 4 | the person who told you that that's how it worked |
| 5 | in 2004? |
| 6 | A. Yes. |
| 7 | Q. Okay. |
| 8 | Did anyone else from Stroz Friedberg |
| 9 | conduct any testing on how Hotmail might have |
| 10 | worked in 2004? |
| 11 | A. I don't know the answer to that, I |
| 12 | don't know if the information came directly from |
| 13 | him. |
| 14 | I would also just note that how that |
| 15 | works in 2004 is one question. |
| 16 | I would also note that you would expect |
| 17 | it to work the same way in 2004 each time; in |
| 18 | other words, you wouldn't expect Hotmail in 2004 |
| 19 | to sometimes abbreviate T-u-e, sometimes |
| 20 | abbreviate T-u-e-s. |
| 21 | Q. Why would you not expect that? |
| 22 | Do you know how Hotmail operates? |
| 23 | A. Because they don't configure themselves |
| 24 | back and forth like that, right, there's a |
| 25 | uniform configuration that they don't just run |
| | |

Page 171 1 B. Rose 2 and change willy-nilly. 3 Ο. How do you know there's a uniform configuration, what's your basis for that 4 5 statement? 6 Α. The Webmail account displays dates in a 7 consistent format. 8 Q. What's your basis for that in 2004 9 Hotmail consistently displayed Webmail account 10 information? 11 Α. I think it is unquestionable that that 12 would be the way it would operate, but if you 13 feel -- I mean, and the idea somehow that 14 Hotmail, the way they set themselves up, right --15 and these are all behind-the-scenes configurations 16 -- that they somehow had a configuration which 17 allowed T-u-e sometimes and T-u-e-s other times 18 as the display is completely implausible to me. 19 What's your basis for it being Q. 20 implausible? 21 I'm saying it's implausible. Α. 22 These are behind-the-scenes 23 configurations that display uniformly over time. 24 Now, that's not -- I just -- it's implausible to 25 me that when you're talking about a series of

Page 172 1 B. Rose 2 documents from the same time frame, sometimes very close together, that they're going to 3 display inconsistently is just implausible. 4 5 Ο. Based on what? It's my experience and my understanding 6 Α. 7 of the way they operate. 8 Q. And do you have any experience with Hotmail back in 2004? 9 10 I mean, I don't know. I think I may Α. 11 have been a Hotmail user back in 2004, but --12 Were you or were you not? Q. 13 Α. I don't recall. 14 And the version of Microsoft Word Ο. 15 used -- that contains these documents that this 16 data was pasted into, how was Microsoft Word 17 configured back at that time to handle the pasting-in of data from a browser like a Webmail 18 19 account? 20 I'm not sure I understand that Α. 21 question. 22 Ο. What kind of changes could Microsoft 23 Word's program cause to data that's copied and 24 pasted from a Web mail account back in 2004? 25 Α. I don't know.

| | Page 173 |
|----|----------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. Did anyone from Stroz Friedberg try and |
| 3 | test the versions of Microsoft Word that these |
| 4 | documents were created in to see what changes |
| 5 | might occur, if you know? |
| 6 | A. Not that I'm aware of. |
| 7 | Q. Did you ask Microsoft for any advice on |
| 8 | how formatting changes might have occurred through |
| 9 | that process? |
| 10 | A. We did not have any conversation with |
| 11 | Microsoft about that. |
| 12 | Q. Did you contact Hotmail? |
| 13 | A. No. |
| 14 | Q. Did you attempt to configure a Hotmail |
| 15 | server the way it would have been configured back |
| 16 | in 2004, e-mail server? |
| 17 | A. No. |
| 18 | Q. And did you test even in the current |
| 19 | time, 2011, how data copied from different Web |
| 20 | browsers in Webmail accounts and then pasted into |
| 21 | Microsoft Word might result in different |
| 22 | formatting? Did you run that test? |
| 23 | A. I did not. I don't know whether it was |
| 24 | done. |
| 25 | Q. Now, the Coordinated Universal Time |

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | that appears in an e-mail if let's just say |
| 3 | 2011 as a hypothetical, assume this is the case, |
| 4 | but I'll just ask you to assume it as a |
| 5 | hypothetical, that Daylight Savings Time, we went |
| 6 | from Standard Time to Daylight Savings Time |
| 7 | somewhere in March of 2011, the date's not |
| 8 | relevant to the question, is it the case that if |
| 9 | an e-mail is sent before that change of time, but |
| 10 | the person doesn't open it until after we've |
| 11 | changed into Daylight Savings Time, what |
| 12 | Coordinated Universal Time would appear in that |
| 13 | e-mail if it's opened at that time? Is |
| 14 | Coordinated Universal Time reflective of when the |
| 15 | person actually opens the e-mail or when the |
| 16 | e-mail was sent? |
| 17 | A. So it would in general, I think, |
| 18 | display based on the time zone of the computer |
| 19 | clock being used to view it, but I don't know |
| 20 | with Hotmail how that would operate in that |
| 21 | hypothetical. |
| 22 | Q. And if that computer clock is set |
| 23 | correctly, hypothetically, then the Coordinated |
| 24 | Universal Time in that e-mail should be correct, |
| 25 | should be accurate? |
| | |

VERITEXT REPORTING COMPANY www.veritext.com

| | Page 175 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. Again, I don't know how Hotmail |
| 3 | specifically operated there. |
| 4 | Q. Are there any you conclude about |
| 5 | these e-mails that the Coordinated Universal Time |
| 6 | is not consistent with the time of year in which |
| 7 | they were allegedly received, I believe I'm |
| 8 | summarizing and if I'm doing it incorrectly, |
| 9 | please put the words in you think make it |
| 10 | correct. |
| 11 | A. Okay. |
| 12 | Q. Is it only fraud which could be the |
| 13 | cause of that Coordinated Universal Time being |
| 14 | apparently in error in these e-mails? Just the |
| 15 | e-mail itself, not considering everything else |
| 16 | that you clearly think my client's committing a |
| 17 | fraud, just looking at that e-mail and |
| 18 | Coordinated Universal Time is off, is the only |
| 19 | conclusion for that fraud got to be fraud? |
| 20 | A. So forgetting I guess I'm forgetting |
| 21 | everything else I know, I just got an e-mail |
| 22 | Q. If I just give you an e-mail and I say |
| 23 | I just got this e-mail today or it was sent today |
| 24 | and received today and you look at it and say, |
| 25 | Well, Dean, the Coordinated Universal Time is |

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | off, would you then say, in my opinion that |
| 3 | e-mail is a fraud because of that one fact? |
| 4 | A. I'd say that standing alone, no, not |
| 5 | necessarily. |
| 6 | Q. And the formatting differences we |
| 7 | talked about before, standing alone, not |
| 8 | indications of fraud necessarily either, they can |
| 9 | just occur sometimes? |
| 10 | A. I think the formatting differences we |
| 11 | see here are clear indications that the document |
| 12 | has been manipulated, so I would disagree with |
| 13 | that. I don't think there's any plausible |
| 14 | explanation that these could be the result of |
| 15 | formatting differences introduced as a cut-and- |
| 16 | paste operation, so I would disagree with that. |
| 17 | You're asking me the mere appending of |
| 18 | the wrong time zone to an e-mail standing alone |
| 19 | without any other fact surrounding it, there |
| 20 | could be other explanations for that. |
| 21 | Q. And are you aware of any e-mails or |
| 22 | references to e-mails in this case from a source |
| 23 | other than Mr. Ceglia which have the wrong |
| 24 | Coordinated Universal Time attached to them? |
| 25 | A. I am aware I'm trying to think in |

212-490-3430

Page 177 1 B. Rose terms of the time zones -- there is in, I think, 2 3 one of the, again, the intermediary servers in the Sidley & Austin e-mails had the wrong time 4 5 zone setting; those are the only examples I can think of. 6 7 Let me try and jog your memory a little Q. bit. 8 9 You and I have exchanged e-mails in the 10 past couple of weeks about this Kasowitz letter 11 issue; are you generally familiar with that? 12 Α. Yes. 13 Q. You sent me a TrueCrypt container on a couple of occasions, and there's an item 379, 14 15 does that ring a bell, as one of the items we've 16 been corresponding with and --17 Α. It does. 18 And you had to evaluate that item to Ο. 19 see if it was relevant to put it on a relevant 20 items log in the past; do you recall that? 21 Α. Yes. 22 Q. I'm not asking you to memorize it, but 23 you did read through it to see if it was 24 relevant, obviously? 25 Yes. I mean, it is an extremely long Α.

| | Page 178 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | document |
| 3 | Q. It is. |
| 4 | A so I may not have read it word for |
| 5 | word, but I've reviewed enough of it to know that |
| 6 | the contents are relevant. |
| 7 | Q. Right. |
| 8 | And let me just state, and this is the |
| 9 | record in this case, that that item 379 is a |
| 10 | single e-mail with some attachments and then in |
| 11 | the body of that e-mail are referenced many more |
| 12 | e-mails, it's quite a long document, as you |
| 13 | indicated. |
| 14 | A. It's a long chain. |
| 15 | Q. Right. |
| 16 | So that's generally what it is. |
| 17 | And many of those e-mails referenced in |
| 18 | the body of 379 are e-mails that appear to be |
| 19 | between lawyers that were working with Mr. Ceglia |
| 20 | at that time. |
| 21 | Do you recall that? |
| 22 | A. I know there are some, some of those |
| 23 | e-mail exchanges are between lawyers working for |
| 24 | Mr. Ceglia at the time. |
| 25 | Q. And now here's the hypothetical, and |

Page 179 1 B. Rose 2 because I don't have 379 in front of me, I won't 3 ask you to trust me on this, so I will convert it to a hypothetical. 4 5 Let's say some of those e-mails referenced in the body of 379, if some of them 6 7 were sent at a time where the Coordinated 8 Universal Time should have been, let's say, minus 500, but it says minus 400, it's wrong, you 9 10 wouldn't conclude, based on that, that some of 11 those prior lawyers for Paul Ceglia were 12 committing fraud? 13 Α. So this is a hypothetical specifically 14 about 379? 15 Q. Right. 16 If some of those e-mails have the wrong 17 Coordinated Universal Time that's not an 18 indication of fraud by those lawyers, in your 19 opinion? 20 So given the context, no, I would not Α. 21 conclude that. 22 Q. And that Kasowitz e-mail you just 23 recently sent it to me in a TrueCrypt container 24 as a native format e-mail. 25 Do you recall sending that to me?

| | Page 180 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | A. Yes. |
| 3 | Q. Okay. |
| 4 | That native format e-mail itself has |
| 5 | one attachment. I don't know if you recall that. |
| 6 | Do you recall it? |
| 7 | A. I thought it had more attachments than |
| 8 | that, but I don't recall. |
| 9 | Q. And that actual individual e-mail was |
| 10 | never included by you on a privilege log in this |
| 11 | case by itself, if you recall? |
| 12 | MR. SOUTHWELL: What specifically are |
| 13 | you referring to? |
| 14 | MR. BOLAND: The native format |
| 15 | individual e-mail dated August April 13, |
| 16 | 2011, which you recently sent to me itself |
| 17 | was never included on a privilege log in |
| 18 | this case. |
| 19 | MR. SOUTHWELL: I'm just going to |
| 20 | object, this doesn't seem to have anything |
| 21 | to do with Coordinated Universal Time or the |
| 22 | report, so it's an objectionable line, but |
| 23 | if you're going to connect it, I'd like to |
| 24 | hear that. |
| 25 | MR. BOLAND: I would like to hear the |

Page 181 1 B. Rose 2 answer of the witness, but I hear your 3 objection. I mean, I sent you, as I recall, what I 4 Α. 5 recently sent you included several -- it was one -- it was item 379 -- I mean, there were 6 7 various items in that, right, there were various 8 attachments, I don't think it was limited to one attachment, so I guess I'm not sure exactly which 9 10 document you're talking about. 11 I mean, it's possible to me -- and, you 12 know, we include, when we include an e-mail, we 13 also include their attachment, so just merely 14 saying dated April 13th I'm not sure I can with 15 precision identify the document which you're 16 talking about. 17 Q. Fair enough. 18 Let's talk about use of computers 19 generally. 20 Would you agree with me that -- and 21 maybe you've seen this in your work -- that 22 people can lie about how they actually use their 23 computers? 24 Α. Yes, I would agree that people can lie 25 about the way they use their computers.

Page 182 1 B. Rose 2 Q. And as a forensics expert you wouldn't 3 rely on a witness' statement about how they used their computer without confirming it through 4 5 forensic analysis? That's correct. 6 Α. 7 And would you agree that people who Q. commit fraud often make self-interested 8 9 statements to try and avoid detection for that 10 fraud? As a hypothetical, yes, I think I would 11 Α. 12 agree with that. 13 Q. And I think I asked you this before. 14 You never spoke with Mark Zuckerberg 15 about how he used his Harvard e-mail account? 16 I've never spoken with Mark Zuckerberg Α. 17 about anything. Did you ask his lawyers to get 18 Q. 19 information from him telling you how he used his Harvard e-mail account? 20 21 So let me be clear: Our role in the Α. 22 Harvard e-mail account was to work with Harvard 23 to make sure we'd gotten all of the historical 24 copies, to perform whatever collections were 25 necessary and then to perform electronic

Page 183

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | discovery processing to create an aggregate data |
| 3 | set, to then subject that to certain search terms |
| 4 | and provide those to Gibson, Dunn for review as |
| 5 | well as to conduct our own review of those, of |
| 6 | certain specified documents to determine whether |
| 7 | the purported e-mails were found there and to |
| 8 | identify communications between Mr. Zuckerberg |
| 9 | and various people involved with StreetFax.com, |
| 10 | that was our charge with the Harvard e-mail, and |
| 11 | so I did not ask Gibson, Dunn to do that, I don't |
| 12 | think, given our role, that would have been a |
| 13 | relevant consideration for us or appropriate for |
| 14 | me to tell Gibson, Dunn to go ask a question |
| 15 | that's irrelevant to the work I'm tasked to do. |
| 16 | Q. And did you somehow confirm with anyone |
| 17 | that this was all of Mark Zuckerberg's available |
| 18 | e-mail that was relevant to expedited discovery? |
| 19 | A. I find that to be a confusing question |
| 20 | because my reading of the order in the protocol |
| 21 | is that the expedited discovery phase is focused |
| 22 | on an analysis of Mr. Ceglia's media and |
| 23 | Mr. Ceglia's e-mail, so |
| 24 | Q. I'm just asking the question, sir. |
| 25 | Did you ask someone to have Mark |

Page 184 1 B. Rose 2 Zuckerberg confirm that you had access to all of 3 his e-mail? Did you ask someone that question? MR. SOUTHWELL: Objection. 4 You are 5 asking -- well, you are asking a different 6 question, but --7 That's my question. MR. BOLAND: 8 I did not ask anyone to make sure that Α. 9 we had access to all of Mark Zuckerberg's e-mail. 10 There was, you know, we were involved in 11 conversations with Harvard IT to make sure that 12 we had gotten everything that was available. We 13 were, as I said, involved early on in analysis of 14 various other assets of Mr. Ceglia that I 15 understood to be comprehensive, but as to that 16 specific question, no, I don't recall asking that 17 specific question. 18 Q. It's possible, then, that there is 19 additional sources of e-mail relevant to this 20 case which you have not had access to? 21 Is it possible? Α. 22 I mean, again, anything's possible, so 23 I would say yes. 24 Q. Don't you think it's a prudent thing to 25 do to ask the person who's the custodian of their

Page 185 1 B. Rose e-mail account if that's everything? 2 3 Is that a prudent thing to do in Α. general? 4 5 In this case don't you think it would 0. 6 have been a prudent thing to do to ask the 7 defendants, Hey, ask Mr. Zuckerberg is this is 8 everything or if he's got e-mails somewhere else? 9 Α. To me, you're asking me a question that 10 is appropriately a strategy question for 11 attorneys that goes outside what I was charged to 12 do in the case, which involves expedited 13 discovery and to describe the work with 14 Mr. Zuckerberg's e-mails, so as to whether that 15 would be prudent in this case, you know, I 16 haven't really considered that and I don't think 17 I want to offer an opinion on it. 18 Q. What do you think the likelihood is 19 that there's other e-mail or electronic 20 communications relevant to this case that you 21 have not had access to? 22 Α. I would think, given the thoroughness 23 I've seen of the investigations that I've been 24 party to, I think it unlikely, but it's possible. 25 You talked about one of the retrievals Q.

Page 186 1 B. Rose 2 from the Harvard server was from November 2003, 3 you got e-mail from that time period? Α. That's correct. 4 5 Not in that time period, but from that Ο. 6 time period? 7 Α. From that time period. 8 In other words, just to be clear, a 9 historical snapshot of what existed in the 10 mailbox at some point in November 2003. 11 And did you find any e-mails in that 0. 12 retrieval that were not included in the 13 subsequent productions that you got, either 14 collected or received from Harvard? 15 MR. SOUTHWELL: Are you asking about 16 Ceglia-Zuckerberg e-mails? 17 MR. BOLAND: Yes. 18 Α. I believe so. You're talking about 19 between the November 2003 and the subsequent 20 productions, the first of which would have been 21 in October 2010? 22 Q. Right. 23 Yes, I believe there were e-mails that Α. 24 were included in that production that were not 25 included, not unsurprisingly, in a production

Page 187 1 B. Rose 2 that occurred seven years later. And what happened to those e-mails that 3 Ο. were not in that production seven years later? 4 5 Α. I don't know. Did you ask the defendants to ask 6 Ο. 7 Mr. Zuckerberg what happened to those e-mails? 8 Α. I did not. 9 Ο. Did anyone else from Stroz Friedberg 10 ask that question of the defendants, if you know? 11 Again, given our task with the e-mail, Α. 12 I don't think that would be an appropriate 13 question for us to direct to Gibson, Dunn. 14 Did you see Paul Ceglia's -- a recent Ο. 15 declaration of Paul Ceglia stating that he sent 16 e-mails to Mr. Zuckerberg between the time period 17 of March 2003 and June of 2003? 18 Α. I may have, I don't recall that. 19 And are you aware that your -- that Q. 20 Stroz Friedberg did not recover any e-mails 21 between Mr. Ceglia and Mr. Zuckerberg during that 22 time period? 23 I am not. Α. 24 Q. Did you see the production that Stroz 25 Friedberg provided to the plaintiff pursuant to

Page 188 1 B. Rose 2 the expedited discovery order of the Harvard e-mails? 3 Α. Did I see the production itself? 4 5 Ο. Before it was produced to us did you 6 look at it? 7 Α. No. 8 Q. Do you think it's -- what's your 9 opinion of the likelihood that this contract 10 signed on April 28, 2003, that the terms of this 11 contract were discussed between Mr. Ceglia and 12 Mr. Zuckerberg using e-mails before the date it 13 was signed? 14 I wouldn't even want to offer an Α. 15 opinion on that. 16 Assuming, because it is the case, but Ο. 17 we will just assume it for this, that there are 18 no e-mails between the parties Ceglia and 19 Zuckerberg from around March of '03 till June of 20 '03, don't you think that's a little odd that 21 they have no e-mail communication before the 22 signing of this contract in April of 2003 and 23 then for another six weeks, 5-1/2 weeks later, 24 still no e-mail communication in Mr. Zuckerberg's 25 Harvard e-mail account? Don't you find that odd?

Page 189 1 B. Rose 2 Α. No. Now, you found -- the report details 3 Ο. several different documents that are similar to 4 5 the paper contract in this case with the Facebook 6 language in it, true, in your report, you talk 7 about those? 8 Α. So we talk about multiple unsigned 9 versions of what we refer to as the Work For Hire 10 contract, yes. 11 Ο. Yes. 12 And did your forensic analysis provide 13 you with which one, if any, of those unsigned versions was the one that was printed and became 14 15 the paper contract that my client is now offering 16 as the authentic contract between the parties? 17 I think none of them were printed Α. 18 directly because they all vary somewhat in 19 substance from the actual original contract; in 20 other words, they are all similar documents, but 21 there are seven different variations, so the 22 printed copy is ultimately different. 23 We did not identify any exact duplicate 24 copies of the Work For Hire contract save for one 25 that was included in an e-mail from Mr. Argentieri

| | Page 190 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | that was post litigation. |
| 3 | Q. And you are aware that Mr. Ceglia has |
| 4 | not offered or attached to any pleadings any of |
| 5 | those similar versions of the Work For Hire |
| 6 | contract? You are aware of that? |
| 7 | A. I don't believe he has. |
| 8 | Q. And he didn't attach the e-mail from |
| 9 | Jim Kole or the TIFF images to any pleadings or |
| 10 | anything that he's filed in this case, you are |
| 11 | aware of that? |
| 12 | A. I am aware of that, yes. |
| 13 | Q. Now, your forensic report and your |
| 14 | analysis is not arguing that the paper contract |
| 15 | itself is backdated somehow? |
| 16 | A. I am not offering any opinions on the |
| 17 | paper contract at all. |
| 18 | Q. And there's no computer evidence that |
| 19 | you found suggesting that Mr. Zuckerberg did not |
| 20 | sign page 2 of the paper contract? |
| 21 | That's a double negative, I can ask it |
| 22 | a little more clearly. |
| 23 | A. Sure, that would help. |
| 24 | Q. Did you find any computer forensics |
| 25 | evidence suggesting that Mr. Zuckerberg was not |

Page 191 1 B. Rose 2 the person who signed the second page of the 3 paper contract? MR. SOUTHWELL: You're talking about 4 5 the original paper Work For Hire document 6 that was presented for production? 7 MR. BOLAND: Correct. 8 Α. The forensic evidence that we found 9 overwhelmingly indicates that the StreetFax 10 contract is authentic; therefore -- and the 11 evidence also indicates with all the manipulation 12 that the Work For Hire contract is a fake, so I 13 would say that that evidence would lead me to 14 conclude, without even having to analyze the 15 paper, which I have no opinion on and I am not an 16 expert on, that any paper document presented that 17 purports to be the Work For Hire document signed 18 by Mark Zuckerberg is a fake. 19 What I'm asking you is, is the computer Q. 20 forensic evidence, is there any that tells you that the person who put a signature on page 2 of 21 22 the paper contract was not Mark Zuckerberg? Do 23 you have forensic evidence that points you to 24 that not happening, for example, an e-mail that 25 Mark Zuckerberg says, I never signed page 2 of

Page 192 1 B. Rose the contract, did you find anything like that? 2 3 We did not find anything like an e-mail Α. from Mr. Zuckerberg disclaiming that he'd signed 4 5 page 2 of that contract. 6 Ο. Okay. 7 Did you find any Web history that 8 supports an argument that Mr. Zuckerberg didn't 9 sign page 2 of the paper contract? 10 I mean, again, beyond, you know, some Α. 11 of the Internet history providing some evidence 12 that, you know, the StreetFax contract is 13 authentic, the other contract is fake, no. 14 Ο. Did you visually compare a copy of page 15 2 of the paper contract with page 2 of the 16 StreetFax contract, looking at them side by side? 17 I probably have looked at them side by Α. side before. I don't recall. 18 19 Do you recall what your reaction was to Q. 20 that comparison? Did they look the same to you 21 or different? 22 Α. I don't recall. 23 Now --Ο. 24 MR. SOUTHWELL: If you are going to a 25 different topic, we are approaching 3-1/2

Page 193 1 B. Rose 2 hours. 3 Do you know how much more you think you've got planned? 4 5 MR. BOLAND: I don't really know. I will probably go over 3-1/2 a little bit. 6 7 MR. SOUTHWELL: When would you like to take a lunch break? I would like to take a 8 little lunch break. 9 10 MR. BOLAND: We can do that now. 11 Do you want to? 12 MR. SOUTHWELL: How much more do you 13 think you have? 14 MR. BOLAND: Probably an hour, I'm 15 guessing. 16 MR. SOUTHWELL: Do you want to go off 17 the record, then, at this point? MR. BOLAND: Let's go off the record, 18 19 we can do that. 20 (Lunch recess: 2:09 p.m.) 21 22 23 24 25

Page 194 1 B. Rose 2 AFTERNOON SESSION 3 (Time noted: 3:05 p.m.) MR. BOLAND: We can start the tape. 4 5 THE VIDEOGRAPHER: And we are rolling. 6 MR. DUPREE: Timewise, I know you 7 requested, I think, three and a half hours, 8 which I think we are probably at about that 9 limit now. I am not going to shut things 10 down, but I wanted to call that to your 11 attention. 12 MR. BOLAND: Yes, we are a little bit 13 over. Probably another hour or so and that 14 will wrap it up, presumably. 15 MR. DUPREE: Hopefully we can do that 16 quickly. 17 MR. BOLAND: Yes, I will. BRYAN J. ROSE, resumed and 18 19 testified as follows: 20 EXAMINATION BY (Cont'd) 21 MR. BOLAND: 22 Q. Mr. Rose, in addition to the two TIFF 23 images which were named Scan0001 and 0002, you 24 didn't find any other -- you found those on the 25 computer in one location and that was it,

Page 195

| 1 | B. Rose |
|-----|---------------------------------------------------|
| 2 | according to your report, if I'm recalling it |
| 3 | correctly, you didn't find them anywhere else? |
| 4 | I'm saying the Ceglia media, not the |
| 5 | Sidley & Austin servers now. |
| 6 | A. So we found so we found the TIFF |
| 7 | images in the Outlook Express mailbox, we also |
| 8 | found what appeared to be deleted versions that |
| 9 | had been created on the hard drive immediately |
| 10 | before being sent, which is why we determined |
| 11 | they appeared to be copied from the hard drive |
| 12 | and then sent from the hard drive, but we |
| 13 | believed those copies represented those files |
| 14 | because the file size and file name, but in terms |
| 15 | of an actual copy with content, although one of |
| 16 | the deleted files was partially recoverable in |
| 17 | terms of content, that was the only location was |
| 18 | the Outlook Express file. |
| 19 | Q. And the comment you just made about |
| 20 | believing that those files were the same, let's |
| 21 | talk about that for a moment. |
| 22 | The deleted versions had the same file |
| 23 | name as the versions you actually found and they |
| 24 | had the same file size? |
| 0.5 | |

25 A. The same file size, in addition to one

Page 196 1 B. Rose 2 of them was partially recoverable and the content 3 was the same. And what's the likelihood that those 4 Ο. 5 files that had the same file name and the same file size were in fact versions of the two files 6 7 that you did find, what would be your opinion on 8 that? 9 Α. I think it's very likely. Certainly 10 for the one -- I would say for the one -- very 11 likely, particularly given the fact we were able 12 to recover some content, compare that. 13 Q. Even without the content, is it fairly 14 likely they are same? 15 Α. Yeah. 16 Is that a common way that forensic Ο. 17 experts will reach that conclusion in general is if they have two files with the same name and the 18 19 same file size, but one of them the content is 20 missing, they will conclude it's likely that 21 that's a copy? 22 Α. I think it depends on the context, but 23 in general, yes. I mean, you know, the file 24 name, depending on what you're comparing, can be 25 more or less persuasive, depending on the

Page 197

| 1 | B. Rose |
|----|--------------------------------------------------|
| 2 | circumstances. Comparing the file size, you |
| 3 | know, it's one way to reach a conclusion the two |
| 4 | files are the same. |
| 5 | Q. Can you, on this similar topic, on page |
| 6 | 54 of Exhibit 1, which is the version of your |
| 7 | report that we provided you today that has the |
| 8 | file stamp across the top, do you see on page 54 |
| 9 | you are talking about a missing USB device and |
| 10 | links, link files on a Toshiba laptop that |
| 11 | reference two files that your report indicates |
| 12 | you believe were on that missing USB device? |
| 13 | Do you see where I'm referring to |
| 14 | there? |
| 15 | A. So the at the top of the page it's a |
| 16 | list of USB devices which were attached to |
| 17 | various PC media but were not produced. |
| 18 | Q. Right. |
| 19 | A. And then the discussion does include |
| 20 | two files which were link files were found on a |
| 21 | Toshiba laptop, two files on a USB device, yes. |
| 22 | Q. Right. |
| 23 | And those are the files those are |
| 24 | two files that I believe correct me if I'm |
| 25 | wrong you're saying they were named well, |

Page 198 1 B. Rose yeah, what's a link file, if you can just 2 describe that for the Court? 3 It's essentially like a shortcut, I 4 Α. 5 mean, it's a file, your computer puts down a link file so that it can recall a document quicker, it 6 7 is a shortcut file, it's a pointer, essentially. In about the third full paragraph you 8 0. 9 start talking about on the Toshiba satellite 10 laptop. 11 Do you see that? 12 Α. Mm - hm. 13 Q. And then you name the two link files? 14 Α. Yes. 15 Q. And the embedded metadata, these link 16 files show that they point, what does that mean, 17 the embedded metadata, what are you referring to 18 there, these link files show that they point to a 19 removable device? Can you explain that? 20 So if you analyze the link file itself Α. 21 you can see essentially to what it's pointing, 22 generally whether it's an Internet location, 23 whether it is a removable device location, so 24 that would just indicate that the metadata 25 associated with the files, which is just, you

Page 199 1 B. Rose 2 know, information about the -- data about data, 3 right, so it is data about the files, we were able to determine from that that it pointed to a 4 5 USB removable device rather than to the Internet 6 or some other location. 7 And the link is not an actual file, Q. 8 it's just a pointer? 9 Α. Well, it's an actual file, I mean, it's 10 a link file, but it's not -- it is a pointer to 11 another file, yes. 12 Q. It isn't the file that it is pointing 13 to, it's just a pointer to it? 14 So a link file to the Zuckerberg Α. 15 contract page 1 TIFF is not the actual TIFF 16 document, it's a pointer to that document. 17 And it's not a copy of the actual Q. 18 document, it's just a pointer? 19 No, yes. Α. 20 So that file, as you put in your report, Q. 21 is one of the evidence, pieces of evidence under 22 a claim the defendants -- you know the defendants 23 have made a claim of spoliation of evidence 24 against Mr. Ceglia; right? Are you aware of 25 that?

Page 200 1 B. Rose I don't -- I mean, a formal claim, I 2 Α. 3 know that there have been allegations of spoliation, yes. 4 5 And this is in your report two TIFF Ο. 6 files which your report indicates existed at one 7 time on removable media; true? 8 Α. Mm-hm. 9 Ο. But yet weren't produced in discovery; 10 true? 11 Α. Correct. 12 Q. And --13 Α. I should point out existed on removable 14 media subsequent to the filing of the complaint. 15 I'm going to show you -- I don't know Q. 16 if I have two copies or not, so your lawyers may 17 have to look over your shoulder. I thought I did. 18 19 MR. BOLAND: Could you mark this as 20 Exhibit -- I think we're on 3. 21 (Rose Exhibit 3, supplemental 22 declaration of Paul D. Ceglia, marked for 23 identification, as of this date.) 24 And this is document number -- this is Q. 25 Exhibit 3, document number 139-2 filed in this

Page 201 1 B. Rose 2 case, it's entitled "Supplemental Declaration of 3 Paul Ceglia." Do you see that, Mr. Rose? 4 5 Α. I do. Can you look at paragraph 6 of that 6 Ο. 7 document, and it should indicate there that he 8 produced by way of Mr. Argentieri two files with 9 the same file name that we were just talking 10 about from your report. Go ahead and confirm that that's what 11 12 those files names say. 13 Α. It actually appears to be a different 14 file name in that the file name cited in 15 Mr. Ceglia's affidavit includes underscores and 16 not spaces. 17 And does the file name that there's a Ο. link file to --18 19 And just to be clear, in a file-naming Α. 20 convention that's not a small difference; to me 21 they're different file names. 22 Q. And the file name in your report does not include an underscore? 23 24 Α. It does not. 25 And is that the accurate file name for Q.

Page 202 1 B. Rose that file? 2 3 Α. I believe so. Can you check out paragraph 49, please. 4 Q. 5 Okay. Α. Does that file name seem to be the same 6 Ο. 7 two files names as we were just talking about in 8 your report? 9 Α. So now we are in paragraph 49 and 50? 10 Q. Yes. 11 It does appear to be the same file Α. 12 names. 13 Q. And this is a declaration by Mr. Ceglia of items he has produced; true? 14 15 I'm just looking at the entire document. Α. 16 So it's not clear to me what he's 17 stating here. I mean, it appears to be a list of -- initially a list of documents that are in 18 19 the possession of various groups, as I understand 20 at some point who had been employed or retained 21 by Mr. Ceglia, so he lists documents which are in 22 their possession and then there's a certification 23 in 173 that indicates that all of the above are 24 being produced to defendants on August 29, 2011. 25 To the extent -- I mean, I guess this

Page 203 1 B. Rose 2 is a little ambiguous, but to the extent 173 3 refers to everything listed in the proceeding, 172 paragraphs, that would be the case. 4 5 And do you know the file size of 0. 6 Zuckerberg, the two files we were just talking 7 about from your report that were on the USB 8 drive? 9 Α. I do not. 10 Do you know the file size for the two Q. 11 files that were in paragraph 49 of the declaration that you just read? 12 I do not. 13 Α. 14 Would it surprise you to learn that Ο. they are the identical file size? 15 16 I don't know that it would surprise me Α. 17 or not surprise me. What's the likelihood that the file in 18 Q. 19 paragraph 49 of his declaration is an exact copy 20 of the files you reference in your report from 21 the USB drive if the file names are the same and 22 the file sizes are the same, what's the 23 likelihood those are the same files? 24 MR. DUPREE: Just for clarification, 25 you are talking about file size.

Page 204

1 B. Rose 2 Are you talking about the linked files or the actual files? 3 MR. BOLAND: Actual files. 4 5 Α. So if the actual files have the same 6 name and the same file size, although -- I mean, 7 you couldn't determine file size from the link 8 files themselves, so you'd have to have the files 9 as they existed on the removable media and the 10 files that exist -- is it -- I'm sorry, which 11 expert was this? Mr. Stewart? 12 If you had the name in the files --13 well, if you had the files, you could compare the 14 content. If you just the name and the file sizes 15 and it had the same name and the same file size I 16 quess I would conclude, depending on if there 17 were any other circumstances surrounding that, 18 that it's likely they're the same. 19 So you're saying a link file cannot Q. 20 tell you the file size of the file it is pointing 21 to? 22 Α. I think generally link files don't show 23 you the size, but --24 Q. But can they? 25 I don't know. Α.

Page 205 1 B. Rose 2 MR. BOLAND: Can you mark this as 3 Exhibit 4, please. (Rose Exhibit 4, five-page document 4 5 headed "Shortcut file," marked for 6 identification, as of this date.) 7 MR. DUPREE: Is this a document that 8 was filed in the case? 9 MR. BOLAND: No. 10 Mr. Rose, this is Exhibit 4, this is a Q. 11 document prepared by our expert. 12 Α. Yes. 13 Q. The first three pages are -- the first 14 two pages are the link file metadata for 15 Zuckerberg contract page 1 TIFF and Zuckerberg 16 contract page 2 TIFF from, as you see there, the 17 removable media, the same link files you refer to 18 in your report. 19 Do you see the file size that's listed 20 on that contract page1.tif that ends in 036? 21 I do. Α. 22 Q. And on page 2 the file size ends in 172 23 for the second one? 24 Α. Correct. 25 Can you flip to the second to last page Q.

Page 206 1 B. Rose 2 of Exhibit 4. 3 Second to last page, that's the Α. properties screenshot for Zuckerberg contract, 4 5 page 1, yes. 6 Ο. Exactly, properties screenshot. 7 And do you see the file size for 8 Zuckerberg contract page 1 the actual TIFF file 9 that was produced is referenced in the declaration and it ends in 036 as well, it's the 10 same file size; true? 11 12 Α. Yes, it appears to be. 13 Q. And then the last page is a screenshot 14 of the properties of Zuckerberg contract page 2 15 that was produced to defendants and it also ends 16 in 172, but it's the identical file size to the 17 one from the link file; right? MR. DUPREE: And I'm just going to 18 19 object to the use of the document because we 20 don't know what it is, it hasn't been 21 verified. 22 MR. BOLAND: Very well. 23 You would agree that those file sizes 0. 24 are the same? 25 Yes, in comparing link files to the Α.

Page 207 1 B. Rose 2 screenshot you showed me. 3 So assuming -- we'll go with a Ο. hypothetical -- that those, that data on that 4 5 exhibit you just reviewed is all accurate regarding the link files and the actual files 6 7 that were produced to the defendants, what is the likelihood that the files that you identified in 8 9 your report as missing from -- along with a USB 10 device were in fact produced to the defendants? Object to form, calls for 11 MR. DUPREE: 12 speculation. 13 Q. Just what's the likelihood, 14 probability, whichever word you choose? 15 MR. DUPREE: Same objection. 16 I would say it's likely, but, you know, Α. 17 without having the two files to compare, I 18 couldn't say conclusively. 19 You used the phrase fraud or evidence Q. 20 of fraud several times during your testimony 21 today; is that correct? 22 Α. I believe so, yes. 23 Are you aware that there is actually a Ο. 24 certification for people to obtain if they want 25 to be a fraud examiner or a fraud expert? Are

Page 208 1 B. Rose you aware of that? 2 3 Α. I am. Do you have such a certification? 4 Q. 5 Α. Well, I do not. To my knowledge, the CFE you're talking about is not a digital 6 7 forensic certification. 8 Q. Fair enough. 9 I was just asking, you don't have that 10 certification? 11 Α. No, I do not. Are you aware that plaintiff's expert 12 Q. 13 Mr. Broom does have that certification? 14 I am not aware of that. Α. 15 Did you review his report and his CV? Q. 16 I don't know that I -- I did review his Α. report, I don't know that I reviewed his CV. 17 I think I marked his report --18 Q. 19 Α. I have it. 20 -- as Exhibit -- could you tell me what Q. 21 exhibit number is on there? Exhibit 2. 22 Α. 23 Can you look at page 29 of Exhibit 2, Ο. 24 again using the numbers in the upper right-hand 25 corner.

| | Page 209 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. 29, yes. |
| 3 | Q. And the third full paragraph, if you |
| 4 | could read there where it starts with the U.S. |
| 5 | Department of Justice. |
| 6 | A. Mm-hm. |
| 7 | Q. Mr. Broom provides by the way, are |
| 8 | you familiar with that document that he refers to |
| 9 | in that paragraph? |
| 10 | A. I'm not. |
| 11 | Q. You've never read it? |
| 12 | A. Not to my knowledge. |
| 13 | Q. Is the Department of Justice a reliable |
| 14 | source for computer forensics guidelines and |
| 15 | information, generally speaking? |
| 16 | A. I don't know that I would offer an |
| 17 | opinion on that one way or the other. |
| 18 | Q. Are there experts of a different |
| 19 | standard than experts outside of the government? |
| 20 | Are they not quite as good? Are they relatively |
| 21 | the same? |
| 22 | A. I think it depends on the expert. |
| 23 | Q. Do you see the quote in the next |
| 24 | paragraph, if you could read that and tell me if |
| 25 | you agree with that quote from that document. |

010 _

| | Page 210 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I think I would generally agree with |
| 3 | that statement. |
| 4 | Q. And on the top of page 30 the quote |
| 5 | there which says "Caution. If the date and time |
| 6 | associated with the e-mail are important to the |
| 7 | investigation, consider that this received time |
| 8 | recorded in the e-mail header comes from the |
| 9 | e-mail server and may not be accurate." |
| 10 | Do you agree with that caution there? |
| 11 | A. I would hesitate to agree or disagree |
| 12 | with that because it appears this received time |
| 13 | appears to be referring to something that |
| 14 | preceded this statement, and I don't know what |
| 15 | that is. I mean, you've got you've got a |
| 16 | selected quotation here referring to some prior |
| 17 | paragraph that is not included. |
| 18 | Q. Let me ask you, when an e-mail is going |
| 19 | through an e-mail server, does the received time |
| 20 | of that e-mail come from the server or from the |
| 21 | person's computer who receives the e-mail? |
| 22 | A. So if you're looking at the copy I |
| 23 | mean, it depends on what copy you are looking at, |
| 24 | right, so if you're looking at the copy as it |
| 25 | flowed, for instance, through the Internet |

Page 211

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | headers as we discussed, it would be appended by |
| 3 | the server. If you're looking at it on the |
| 4 | actual machine itself, the received time would |
| 5 | appear based on the system clock of the computer |
| 6 | used to do it. |
| 7 | Q. And in the e-mails that you evaluated |
| 8 | the content of the Word documents which you |
| 9 | evaluated where my client copied and pasted |
| 10 | e-mails, which is his statement, do you know |
| 11 | whether that data you just referred to came from |
| 12 | an e-mail server or from my client's computer? |
| 13 | A. Well, I mean, they appear to I mean, |
| 14 | they purport to be Hotmail e-mails, so they would |
| 15 | have been accessed through the Internet and |
| 16 | generally would reside on Hotmail servers. |
| 17 | Does that if I understand your |
| 18 | question |
| 19 | Q. So is the date and time that that |
| 20 | e-mail was received as it's reflected in that, |
| 21 | those Word documents, is it your opinion that |
| 22 | that information, that data came from the Hotmail |
| 23 | server or came from my client's computer clock on |
| 24 | which the computer he was using to copy and |
| 25 | paste those e-mails? |

Page 212 1 B. Rose 2 MR. DUPREE: Object to form. 3 Specifically with the e-mails that are Α. part of the copy and paste? 4 5 Ο. Yes. 6 Α. I mean, I don't think those are 7 legitimate e-mails, so I think they've been 8 edited and manipulated and altered, so, I mean, I think the forensic evidence shows that these are 9 10 Word documents that were generated and altered. 11 Is it your opinion that no part of Ο. 12 those Word documents came from any e-mail between 13 Mr. Ceglia and Mr. Zuckerberg? 14 I think it likely that some e-mail, Α. 15 some underlying Hotmail was used as a template, 16 which is why we see the time zone anomaly. 17 I'm asking about the content of the Ο. e-mail itself. 18 19 Are you saying that all that content 20 was manually typed into that document by my 21 client or just some of it? 22 Α. I don't know the answer to that 23 question. 24 What I am saying is that the e-mails 25 themselves show clear signs of manipulation, so

Page 213 1 B. Rose 2 whether he's taking e-mails and editing them or 3 generating them out of whole cloth from a template drawn from an msn e-mail he has, I don't 4 5 know. And the evidence of manipulation, just 6 Ο. 7 to be clear, is the time zone anomaly is one of 8 the elements of the manipulation evidence; true? 9 Α. True. 10 The formatting issues we discussed, Q. 11 Tuesday being one of the references, that's the 12 other evidence? 13 Α. True. 14 What else? Ο. 15 Α. I mean, you also have the issue that 16 the documents themselves all have been backdated, 17 which is further evidence that they are not 18 genuine documents. 19 Q. We have backdating. 20 Anything else other than those three 21 items? 22 Α. Not that I can think of right now. 23 The next quote that's on page 30 --Q. 24 Α. Oh, I -- let me amend myself. 25 I actually think not only do you have

Page 214 1 B. Rose 2 backdated documents, but you have multiple 3 versions of various documents, which is generally something you would not expect to see and in our 4 5 experience it is consistent with people trying 6 to -- in forgery cases trying to draft fraudulent 7 documents as they sort of experiment and go 8 through various drafts and versions. 9 Ο. Does Stroz Friedberg have more than one 10 client that you are being paid by currently, just 11 as a general rule? 12 Α. As a general rule, yes. 13 Q. Do you use fee agreements that are 14 written with those clients? 15 Α. Yes. 16 Are you here to tell this court that Ο. 17 Stroz Friedberg types from a blank page every 18 time they rewrite a fee agreement, they just 19 start out with a blank page and start writing or 20 do you use a previous version and update it for 21 each new client? 22 Α. I wouldn't want to speak for what 23 everybody does. I think generally you would work 24 off either a template or off a pre-existing 25 agreement and substitute a different client in.

Page 215 1 B. Rose 2 Q. So on your computer and the computer of 3 other employees of Stroz Friedberg there are multiple versions of your fee agreement sitting 4 5 there today; true? 6 Α. True, but there are -- I mean, let's 7 look at the example. 8 There are multiple fee agreements, so, yes, there are multiple versions. 9 My fee 10 agreement with Gibson, Dunn in one case might be 11 very different with a different law firm in 12 another case, so I would have two copies of those. 13 What you generally would not expect to 14 see is, if this was a true cut-and-paste 15 operation and I was just saving documents, I 16 would cut and paste and I would save the 17 document, I wouldn't have three different versions of it. 18 19 The reason you have different versions 20 of documents on our system in terms of a fee agreement is because to produce new fee 21 22 agreements we have to edit it, and so to the 23 extent that there are multiple versions of that 24 contract, yeah, I think that this cut-and-paste 25 operation, I think those multiple versions are

Page 216 1 B. Rose indications that he's edited this document over 2 3 time, which frankly shouldn't happen if this was just a true cut-and-paste of those e-mails, he 4 5 shouldn't be editing them. Maybe we're talking about different 6 Ο. 7 I thought you were discussing the Work things. For Hire document different versions now. 8 9 Α. I'm talking about different versions of 10 the three Word documents contained in the 11 purported e-mails. 12 Did you have a written -- well, let's Q. 13 stay on this topic since I accidentally waded into it. 14 15 When you negotiate with someone who's 16 hiring your firm do copies of your agreement go 17 back and forth by e-mail until you arrive at a final one that both sides agree to? 18 19 Α. Occasionally. 20 And that would result in different Q. 21 versions potentially of that same document being 22 on your computer? 23 Α. Yes. And that's not an indication of fraud 24 Q. 25 by you guys?

Page 217 1 B. Rose 2 Α. No. Or by the recipient? 3 0. Α. No. 4 5 It's just how you do business? Ο. 6 Α. Contract negotiations, no, I would not 7 view them as evidence of fraud. But you did find different versions of 8 Q. a contract in this case in electronic form on 9 10 Mr. -- on media that you analyzed? 11 Α. Of the Work For Hire contract? 12 Q. Yes. 13 Α. Yes. 14 And that in and of itself is not 0. 15 evidence of fraud? 16 If you ignore the margin manipulations Α. 17 and the backdating and the other problems 18 associated with those documents, yes, that 19 standing alone, if you put the other evidence 20 aside, is not, the mere existence of versions is 21 not evidence of fraud. 22 I do think, and just to be clear, I do 23 think when you have something like the Word 24 documents containing the purported e-mails, when 25 you have multiple versions, I think in that case

| | Page 218 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | that is, given the circumstances, evidence of |
| 3 | fraud. |
| 4 | Q. What's your opinion about the |
| 5 | reliability of metadata in Microsoft's Windows |
| 6 | operating system? |
| 7 | A. I think that is too general a question |
| 8 | for me to answer. |
| 9 | Q. Does the Windows okay. |
| 10 | Metadata associated with files gets |
| 11 | placed into those files somehow in relation to |
| 12 | the operating system and the computer clock. |
| 13 | Am I right? |
| 14 | A. So, yes, I mean, certainly the time and |
| 15 | date stamps, for instance, would be dependent on |
| 16 | the system clock, yes. |
| 17 | Q. And are you aware that Microsoft |
| 18 | generally discredits the reliability of the last |
| 19 | accessed time stamp since it's easily altered by |
| 20 | system operations that are not sort of user |
| 21 | initiated? |
| 22 | MR. DUPREE: Objection, vague. |
| 23 | Q. If you are aware. |
| 24 | A. I am not aware as to Microsoft's |
| 25 | opinion on the last access date. |

| | Page 219 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. Are you aware of other individuals in |
| 3 | the field who have talked about Microsoft's |
| 4 | opinion in this way? |
| 5 | A. I am not aware of anyone who has talked |
| 6 | about Microsoft's opinion regarding last access |
| 7 | dates. |
| 8 | Q. And do you know a computer security |
| 9 | expert named Rebecca Mercuri? |
| 10 | A. I do not. |
| 11 | Q. Now, you brought up the concept of |
| 12 | backdating that you put into your report and your |
| 13 | conclusion is that I want to be clear that |
| 14 | a computer was backdated or that files were |
| 15 | backdated or is it both? |
| 16 | A. Well, I think, in the circumstances |
| 17 | we're talking about it's taking an action with |
| 18 | the system clock to backdate it and then taking |
| 19 | an action with the document so that it picks up a |
| 20 | date which is not the true date. |
| 21 | In other words, if I have a Word document |
| 22 | and I want to backdate the creation date, before |
| 23 | I saved it on the computer I would backdate the |
| 24 | system clock of the computer, save the document |
| 25 | onto the file system, it's going to pick up that, |

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | the creation date, as, you know, as pursuant to |
| 3 | the system clock. |
| 4 | Q. And the way you determine backdating |
| 5 | here is by comparing different dates in metadata |
| 6 | associated with files; is that a fair statement? |
| 7 | A. Well, I think that's one way in some |
| 8 | circumstances you could do it. You know, there's |
| 9 | other ways to do it, looking at system restore |
| 10 | points, looking at information regarding the |
| 11 | relationship between the system setting on the |
| 12 | computer and Microsoft's network time, I mean, so |
| 13 | there are other evidence of backdating, but one |
| 14 | way is to look at the relationship between |
| 15 | different dates. |
| 16 | Q. Well, that's the way you used here, in |
| 17 | your report here? |
| 18 | A. We also discuss, of course, the |
| 19 | examples of system restore points that are out of |
| 20 | order, should be sequential, and we talk about |
| 21 | one instance where the system clock was well off |
| 22 | of the time recorded by Microsoft, the system |
| 23 | generates an error log because it's so far off, |
| 24 | so I would say we discussed all three methods of |
| 25 | identifying backdating. |

Page 221 1 B. Rose 2 Q. And all this backdating evidence that's 3 in your report comes exclusively from the Seagate hard drive; true? 4 5 Α. I think that is not true. 6 Ο. Where else did you find backdating 7 evidence other than the Seagate hard drive, what 8 other computer did you find that on? I know there's evidence of backdated 9 Α. 10 documents on one of the -- I believe it was a 11 floppy disk. 12 Do you know where in your report you Q. 13 talk about that floppy disk having evidence of 14 backdating? 15 I will try to find it. Α. 16 So on page -- there's a discussion of backdating related to one of the versions of the 17 18 Work For Hire document that begins -- and I'm 19 using the upper, the page number on page 37. 20 Where was that file found? On a CD? Q. 21 It was found on a floppy disk. Α. 22 Q. It's true that a floppy disk, for 23 evidence of backdating, you have to find out what 24 computer it was actually inserted into, because 25 floppy disks don't have clocks; right?

| | Page 222 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. Let's be clear. |
| 3 | So the time itself of the files would |
| 4 | be appended by the computer that was used to |
| 5 | essentially save the document onto the floppy |
| 6 | disk; right? That doesn't mean the floppy disk |
| 7 | itself is not going to contain evidence of |
| 8 | backdating. |
| 9 | For instance, in this case you have two |
| 10 | documents, you have documents which are last |
| 11 | accessed February 18, 2011 that are deleted |
| 12 | documents and you have another document that was |
| 13 | created on May 2nd, 2003 that sits on top of |
| 14 | those documents, or if that makes no sense, it's |
| 15 | inherently inconsistent and could only resolve |
| 16 | some system clock anomalies. |
| 17 | Q. The deleted files had no content which |
| 18 | you could recover; true? |
| 19 | A. That's correct. |
| 20 | Q. And so there's no way to say whether |
| 21 | they connect there the same as the file that sits |
| 22 | over top of them? I mean, you can't say it's the |
| 23 | same file as the one you have content from |
| 24 | because you don't have the content to compare it? |
| 25 | A. Well, they are different names, so I |
| | |

Page 223 1 B. Rose 2 think that would be unusual, but it can't do a 3 content-by-content comparison, that's correct. We were talking about the hourly rate 4 Q. 5 you charged and the hourly rates for everyone 6 else. 7 Do you know what your total billable 8 hours were that went into the work that produced 9 this report? I don't. 10 Α. 11 Is that something you could get from Ο. 12 How difficult would that be to get your office? 13 from whoever does accounting at your office? 14 Α. The total billable hours from myself 15 preparing this report? 16 And everyone else. Ο. 17 Α. I mean, you'd have to aggregate it from 18 the invoices, so it's not -- it's not right at 19 hand, but it would be a task that could be 20 completed fairly easily. 21 I would ask you if you could have Ο. 22 someone from your office compile that together. 23 The rules regarding experts, I think, 24 entitle us to a statement of the compensation 25 that you guys were paid for all of your study and

Page 224 1 B. Rose 2 your testimony in the case, so --3 MR. DUPREE: We'll see what we can do on that. 4 5 What were your instructions when you Ο. 6 first started doing this gathering of evidence to 7 prepare this report? 8 You said several times in your 9 testimony we were charged with this, we were 10 charged with that, sort of -- instructed meaning 11 charged. 12 What were you instructed to do generally, 13 as far as your analysis? MR. DUPREE: I just, for the record, I 14 15 want to make sure we don't get into 16 privileged areas. 17 I think it's acceptable for him to give 18 a high-level response, but I'm assuming 19 we're not going to get into the specific 20 contents of any communications he's had with 21 Gibson, Dunn lawyers? 22 MR. BOLAND: You're correct, yes, just 23 the high level. 24 Q. What was your general approach? After 25 you had your conversations with the defense

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | lawyers, what did you understand you were |
| 3 | |
| 2 | supposed to do? |
| 4 | A. It has nothing to do with my |
| 5 | conversations with the defense attorneys. I |
| 6 | mean, the work to produce this report was done |
| 7 | pursuant to Electronic Asset Inspection Protocol, |
| 8 | which I'm sure you've read, it was issued by the |
| 9 | Court and sets forth what we are to do in terms |
| 10 | of an analysis, and the charge based on that was |
| 11 | to collect, preserve and analyze the Ceglia media |
| 12 | for evidence of the authenticity or |
| 13 | inauthenticity of the Work For Hire contract and |
| 14 | the purported e-mails and then it sets forth, of |
| 15 | course, various other procedural ways to identify |
| 16 | presumptively relevant material, produce it to |
| 17 | you first for privilege review and then produce |
| 18 | it to Gibson, Dunn, so when I talk about what we |
| 19 | were charged with doing, I'm talking about that |
| 20 | document that was issued by the Court, and my |
| 21 | understanding was agreed on between the parties. |
| 22 | Q. In the Word documents that contain the |
| 23 | e-mail exchanges between my client and |
| 24 | Mr. Zuckerberg, how did you determine which one |
| 25 | of the dates in the metadata were the authentic |

Page 226 1 B. Rose 2 ones and which ones weren't the authentic ones? 3 I'm not sure what you mean. Α. Well, if a creation date and an access 4 Q. 5 date somehow conflicted, how did you determine 6 which one was the one to rely on and which was 7 the one to say, well, that's obviously the wrong 8 date? 9 Α. I'm not sure I can answer that question 10 in the abstract, I'd have to -- I mean, these are 11 all fact-specific inquiries and depend on 12 circumstances. 13 Do you have a specific example? 14 I mean, for the purported e-mails, in 15 other words, documents, I mean, I think the 16 inaccuracy such as the time zone stamp is 17 something which is fairly clear, right? I mean, things e-mailed in October should have a time 18 19 zone consistent with Eastern Standard Time. 20 In terms of the rest of it, you know, 21 these documents, based on our analysis of them, 22 are clearly edited, manipulated documents, so I 23 don't believe they are real e-mails and so making 24 a choice as to which one is the accurate date, 25 right, we don't have to do that and we are not

Page 227 1 B. Rose 2 faced with that because frankly, you have a sent and received time on the face of the e-mail and 3 it's a Word document. I don't have access dates, 4 5 I don't have modified dates that are sort of the 6 embedded data you would have if it were an e-mail 7 file. 8 Did you review the report by Jerry Ο. 9 Grant, plaintiff's expert? 10 Α. Yes. 11 And he evaluated exclusively the data Ο. 12 on the floppy disks in this case; true? 13 Α. That is what I recall him discussing; 14 whether that's exclusively, I'd have to look back 15 at the reports, but I do remember him focused on 16 that issue. 17 After reading the report did you have Ο. any dispute with the accuracy of the forensic 18 19 data that he found? 20 I don't recall specific disputes. Α. I do 21 remember some questions about his analysis, but 22 it's been some time since I looked at that. 23 Do you recall today any specific Ο. 24 forensic data he recovered that you think is 25 somehow not the correct forensic information, not

Page 228 1 B. Rose 2 his interpretation of it, but that he pulled the 3 wrong dates or he pulled the wrong information somehow? 4 5 Α. Not that I recall as I sit here today. 6 (Rose Exhibit 5, article entitled "Real 7 Evidence, Virtual Crimes The Role of 8 Computer Forensic Experts" by Paul H. Luehr, 9 marked for identification, as of this date.) 10 I'm giving you Exhibit 5, Mr. Rose, it Q. 11 is an article by someone named Paul, I don't know 12 how to pronounce his last name, L-u-e-h-r. 13 Α. Luehr. 14 Ο. Do you know who that is? 15 I do. Α. 16 Who is that person? Ο. 17 Α. He is the managing director of Stroz 18 Friedberg in our Minneapolis office. 19 Can you look at the -- I guess it's the Q. 20 third page from the end of all of this. 21 Third page from the end? Α. 22 Q. Yes. 23 In the right-hand column near the 24 bottom, the last full paragraph, the second to last full paragraph starts with the word "While." 25

| | Page 229 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Do you see that? |
| 3 | A. Mm-hm. |
| 4 | Q. It says here "While some computer dates |
| 5 | and time stamps will be conclusive, others may be |
| 6 | open to interpretation by competing experts. |
| 7 | Created, modified and accessed dates may be |
| 8 | viewed differently depending on whether a file |
| 9 | remained in one place or whether it was copied |
| 10 | and saved to several locations. In addition, log |
| 11 | files may vary by time zone, and metadata are |
| 12 | generally only as accurate as the underlying |
| 13 | computer clock time." |
| 14 | Would you agree with that statement |
| 15 | from his article? |
| 16 | MR. DUPREE: And just, for the record, |
| 17 | this appears to be about a 10-page |
| 18 | single-spaced article you have shown the |
| 19 | witness and he has not had an opportunity to |
| 20 | review the full article, obviously. |
| 21 | MR. BOLAND: True. |
| 22 | A. Let me just read it again, so I can |
| 23 | Q. Very well. |
| 24 | A. I think I would generally agree with |
| 25 | those statements. |

| | Page 230 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | Q. Have you ever read that article before? |
| 3 | A. I don't recall if I read it before. |
| 4 | Q. But it's essentially a co-worker of |
| 5 | yours in Stroz Friedberg who wrote it; true? |
| 6 | A. It's the managing director in our |
| 7 | Minneapolis office. |
| 8 | Q. Do you know that person? |
| 9 | A. I do. |
| 10 | Q. Okay. |
| 11 | You mentioned you we had talked |
| 12 | about a residence in different locations and that |
| 13 | you'd go to Indiana occasionally and you'd use |
| 14 | your parents computer there; do you remember |
| 15 | talking about that? |
| 16 | A. Yes. |
| 17 | Q. Have you ever used your parents' |
| 18 | computer to e-mail documents to lawyers in cases |
| 19 | that you're working on using their account? |
| 20 | A. I don't recall one way or the other. |
| 21 | Q. So it's possible you've used your |
| 22 | parents' e-mail account to send documents to |
| 23 | lawyers in cases on which you are working? |
| 24 | A. Is it possible? |
| 25 | It's possible. |

Г

Page 231 1 B. Rose 2 Q. How many times do you think that might 3 have happened? Α. I don't have any recollection of it one 4 5 way or the other. Did you find any forensic evidence in 6 Ο. 7 your analysis before or after producing this 8 report to dispute Mr. Ceglia's declaration that 9 he sent as an attachment a copy of the Facebook 10 contract to Mark Zuckerberg before April of 2003? 11 MR. DUPREE: Object to form. 12 Α. Could you repeat it? 13 Q. Did you find any evidence before or 14 after you produced your report there to dispute 15 my client's declaration under oath that he sent 16 at least one e-mail to Mark Zuckerberg before 17 April 2003, when they signed the contract, that included as an attachment the Facebook contract 18 19 in electronic form? 20 MR. DUPREE: Same objection. 21 And what's the Facebook contract? Α. 22 Q. The two-page document that my client 23 has presented as an authentic contract between 24 him and Mr. Zuckerberg which mentions Facebook. 25 Α. So during our analysis we did not find

Page 232 1 B. Rose any evidence of that, I don't think we found any 2 3 evidence regarding that whatsoever. So no evidence to dispute his claim 4 Ο. 5 that he sent that e-mail? I mean, we didn't find any evidence 6 Α. 7 regarding that issue at all. 8 And regarding the TIFF images and Ο. 9 physical size, et cetera, do you know how to use 10 the metadata associated with those TIFF images 11 and calculate the physical size of that file, the 12 mathematical formula that's used by digital 13 imaging experts to sort of tell you the physical size of the file by using the pixels that are 14 15 listed in the metadata? 16 Α. No. 17 And you mentioned a November 2003 Q. 18 e-mail production from Harvard; do you recall 19 testifying about that? 20 Α. Yes. 21 And that there were some e-mails from Ο. 22 that production that were not in later productions; 23 true? 24 I think that's what you testified. 25 My recollection is that there were some Α.

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | unique e-mails contained in the November 2003 |
| 3 | collection that were not contained in the October |
| 4 | 2010 collection and subsequent, obviously |
| 5 | subsequent collections. |
| 6 | Q. And were any of those e-mails that |
| 7 | weren't in the later collections relevant to this |
| 8 | case based upon your evaluation of them? |
| 9 | A. I don't recall. |
| 10 | And let me just be clear about that. |
| 11 | In identifying unique e-mails, what we |
| 12 | were doing is essentially deciding what to add to |
| 13 | an aggregate review set, so what I'm working off |
| 14 | is essentially an aggregate set, so I don't |
| 15 | recall whether, you know, what particular source |
| 16 | each e-mail came from. |
| 17 | Q. And the floppy disk which contained |
| 18 | these Word documents that my client has said are |
| 19 | the copy-and-pasted e-mails, plaintiff's expert |
| 20 | Jerry Grant determined that the versions of |
| 21 | Microsoft Word that those documents were created |
| 22 | in were all contemporaneous with the dates that |
| 23 | my client says he created them, 2003 and 2004. |
| 24 | Did you find anything to dispute that |
| 25 | conclusion of Mr. Grant? |
| | |

VERITEXT REPORTING COMPANY www.veritext.com

Page 234 1 B. Rose 2 Α. I don't have any information about the 3 versioning of those Word documents at this point, so --4 5 Who would have that amongst the people Ο. 6 who did work for you on this report? 7 Α. I don't know. It's certainly possible that either Mr. McGowan or Mr. Novak would have 8 9 that information. 10 Would Mr. Friedberg have that Q. 11 information? 12 Α. I doubt it. 13 MR. BOLAND: I just want to take about a five-minute break and then I think we will 14 15 wrap it up. 16 MR. DUPREE: Okav. 17 We're off the record. 18 (Recess taken.) 19 THE VIDEOGRAPHER: The camera is on. 20 MR. BOLAND: All right. Back on the 21 record. 22 BY MR. ROSE: 23 Mr. Rose, just a few last questions. Ο. 24 Other than the four people associated 25 with the report there, can you give me the names

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | of anyone else who did any work on this case in |
| 3 | some way contributing to the report? |
| 4 | A. I don't know that I can give you a full |
| 5 | and accurate list from memory. There are the |
| 6 | vast majority of the work, including the vast |
| 7 | majority of the forensics was done by Mr. McGowan |
| 8 | and Mr. Novak and together with them I primarily |
| 9 | supervised the matter and the three of us were |
| 10 | the primary drafters of the report, so most of |
| 11 | the work, the vast majority of the work was done |
| 12 | by us. |
| 13 | Now, to the extent small projects were |
| 14 | done by various people, there were certainly |
| 15 | other people who were involved at various stages |
| 16 | in other projects and I'm not sure I could |
| 17 | certainly reconstruct that for you, but I'm not |
| 18 | sure I could give you an accurate and |
| 19 | comprehensive list today. |
| 20 | Q. Very well. |
| 21 | If you could reconstruct that, that |
| 22 | would be good. |
| 23 | Can give a ballpark on the number of |
| 24 | hours you spent? I know you don't know exactly. |
| 25 | I'm assuming it's not a thousand, but |
| | |

Page 236 1 B. Rose 2 maybe it is. I don't think it would be a thousand. 3 Α. On the report, the case itself, I 4 5 mean --On everything leading up to the 6 Ο. 7 production of the report. 8 Α. So not just -- I mean, I just want to 9 be clear, because there's sort of an expedited 10 discovery phase and there's a pre-expedited 11 discovery phase, so the work, you know, I would 12 say that we were involved in the case prior to 13 the expedited discovery, I think, order which came down on July 1st, I believe, of 2010, and 14 15 then there's been a significant amount of work 16 since then, so we're talking about everything. 17 Yes. Q. 18 Α. Okay. 19 I don't. It would be more than a 20 hundred, it's less than a thousand, but --21 Somewhere in there? Ο. 22 Α. Yeah, somewhere in there. 23 Now, is the term "fraud" that's Ο. 24 throughout your report, is that defined anywhere in the computer forensics field? 25 Is there is an

Page 237 1 B. Rose agreed definition of that amongst computer 2 3 forensics experts? Α. I don't know if there's an agreed 4 5 definition of that among computer forensics 6 experts, I'm not aware of one. 7 So would it be fair to say that the Q. 8 determination of fraud which you repeat in the 9 report is really your personal opinion, not an 10 expert opinion, since you're not a fraud expert? 11 I would say it's an expert opinion, I Α. 12 mean, it is an opinion based on our analysis of 13 the digital forensics evidence that we as digital 14 forensic experts uncovered, I would regard that 15 as an expert opinion. 16 And you feel it's appropriate to opine Ο. 17 about fraud when you are not a certified fraud expert or fraud examiner? 18 19 MR. DUPREE: Object to form. 20 You feel that's appropriate? Q. 21 Α. Yes. 22 MR. BOLAND: Can you mark this one last 23 thing, please, I think we are on 6. 24 (Rose Exhibit 6, article entitled 25 "Criminal Defense Challenges in Computer

Page 238 1 B. Rose 2 Forensics" by Rebecca Mercuri, marked for 3 identification, as of this date.) Exhibit 6, Mr. Rose, is an article by 4 Q. 5 Dr. Rebecca Mercuri, it's actually an excerpt from a book. 6 7 Α. Okay. 8 Ο. I would like to draw your attention to 9 the paragraph on page 134 of that document, it is 10 actually the third physical page of the document. 11 Α. Okay. 12 And in the section 2.3, "Confusing Time Q. 13 Stamps," do you see there's a third full 14 paragraph that reads "Although Microsoft 15 generally discredits the reliability of the last 16 access time stamp, since it is easily altered by 17 system operations that are not directly user initiated, either or both prosecution and defense 18 19 may choose to use this metadata if it is helpful 20 to their construction. Best practice should 21 always be to disallow it for any use." 22 What's your opinion -- do you agree or 23 disagree with Ms. Mercuri's statement about --24 Α. I disagree with that. 25 Q. Have you had any training from

Page 239 1 B. Rose 2 Microsoft on that topic? 3 I have not, but let me give you a clear Α. example where I think that paragraph is clearly 4 5 incorrect. There are examples, for instance, in 6 7 the report where a last-access date predates a 8 last-written-to date. That would be a 9 circumstance where, in fact -- it should not be 10 possible, right, you cannot open up a document 11 and modify it without accessing it, and so the 12 inconsistency itself is evidence of an anomaly. 13 In that case I think you could clearly rely on 14 the last-access date. 15 As I understand this, if you're talking 16 about looking at a particular last-access date 17 and saying I can conclusively determine when 18 somebody last accessed that file, I do agree that 19 it is a very fragile time stamp that can be 20 updated by a variety of things including user 21 action and system action, and so to the extent 22 you're talking about using it for that particular purpose I think last-access dates are fragile and 23 24 should be -- they should be interpreted 25 accordingly.

Page 240 1 B. Rose 2 I do think there are clear examples 3 where inconsistencies between last-access dates and last-written dates, for example, there are 4 5 times when it should be used, so I would disagree 6 with that paragraph. 7 Has Microsoft ever issued, to your Q. 8 knowledge, as a computer forensics expert, any 9 formal statements about relying on the access 10 date that the operating system stamps on the 11 files? 12 Α. I don't know about that one way or the 13 other. 14 Did you call Microsoft or contact them Ο. 15 in preparation of this report to find out if 16 those dates are reliable? 17 Α. No. You're just assuming that they are? 18 Q. 19 Again, you're going to have to give me Α. 20 a specific example. 21 I don't think we in the report relied 22 on it in the way I just said, that we said we can 23 conclusively tell you that somebody accessed this 24 document on this date because of the last-access 25 date.

| 1 | B. Rose |
|----|----------------------------------------------------|
| 2 | There are examples of times where we |
| 3 | use a last-access date as to inform our |
| 4 | opinion. I am giving you one example. If the |
| 5 | last-access date predates the last written-to |
| 6 | date, that's an anomaly which indicates to me |
| 7 | some kind of system clock problem or manipulation, |
| 8 | so, again, depending on the way we used it, I |
| 9 | think you'd have to give me a specific example |
| 10 | and I could address that. |
| 11 | I don't think we had just gone through |
| 12 | and necessarily assumed in all cases that last- |
| 13 | access dates are in fact reliable and in fact I |
| 14 | think, if you've read the report, we do note on |
| 15 | occasion that that is in fact a fragile time |
| 16 | stamp and can be updated by system activity. |
| 17 | Q. Is fraud the only way these anomalies |
| 18 | that you've attributed to backdating could have |
| 19 | occurred? |
| 20 | A. Well, again, I have to deal with |
| 21 | specific examples. I think there are examples, |
| 22 | for instance, of flip flopping time stamps, so |
| 23 | you're not just dealing with trying to determine |
| 24 | when something happened, but you're looking at, |
| 25 | you know, time stamps should not go should |
| | |

Page 242 1 B. Rose 2 not, you know, toggle back and forth, but when 3 you see that what you're seeing is, I think, an example of some kind of system clock manipulation. 4 5 Again, you'd have to consider within 6 the circumstances and I think the various 7 motivations and what the documents are being used 8 for and how the particular manipulation affected 9 the interpretation of that document to determine 10 whether I would conclude it was fraud. 11 I mean, fraud is a conclusion that's 12 drawn from a complete analysis of the facts with 13 everything considered, right, so -- and again, this is an overwhelming case of it, so if you 14 15 look at this case and you look at all of the 16 manipulations of data and you look at the 17 existence of the StreetFax contract and you look 18 at the manipulation of the Work For Hire document 19 and the backdating and the margin manipulation 20 and all of that example, that, I think, is a 21 relatively clear conclusion of fraud. 22 Having said that, if you are looking at 23 a particular metadata anomaly, whether I would 24 conclude that in the context is fraud would depend on each individual example. 25

Page 243 B. Rose Q. My question is, let's put aside the constellation of things that you have brought up many times. I'm talking about just a document which has the anomaly you've identified, this difference of dates. That alone is not enough to say fraud, just the single document with some anomaly in dates; isn't that true? A single document with -- I mean, this Α. is a very general question. I don't know what kind of anomaly in dates you're talking about. I think there are examples of documents where you have date anomalies, but if you just had that standing alone you couldn't draw a conclusion of fraud. And why couldn't you draw fraud from Ο. just that alone, a date anomaly? I think there are examples where you Α. couldn't, I think there are probably examples where you could. It's all fact specific, so --Q. Tell me about one where you couldn't. You had just a date anomaly on a Word document, but you would not be comfortable saying it's the result of fraud.

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

Page 244 1 B. Rose 2 Why not? Isn't every date anomaly fraud? 3 Α. No. 4 5 Well, how else could a date anomaly Ο. 6 happen if it's not fraud? 7 Well, let me give you a clear example Α. 8 because -- in this case. 9 You have the Sidley & Austin 10 intermediary server which had the time zone 11 setting that's incorrect. I would not conclude 12 from that that somebody at Sidley & Austin is 13 engaged in fraud because I see no -- it's a 14 misconfiguration which could easily occur, it 15 doesn't affect the actual dating of the document 16 itself because the time's correct, it's an 17 intermediary server, so you have the real time 18 appended by the server after it, it's something 19 which could easily escape notice at a place like 20 Sidley & Austin and I cannot think of any reason 21 that anybody would want to manipulate that time 22 zone stamp and the time zone stamp alone for any 23 purpose, for any fraudulent purpose. 24 So that's an example of one where, I 25 think, if you look at that and the circumstances

| 1 | B. Rose |
|----|---------------------------------------------------|
| 2 | it would be very difficult to draw the conclusion |
| 3 | of fraud from that, I think it's clearly not, but |
| 4 | again, you're looking at all the circumstances. |
| 5 | Q. But in reality there could have been |
| 6 | someone who was a rogue employee from Sidley & |
| 7 | Austin for some other purpose not related to this |
| 8 | case who manipulated their clock and was |
| 9 | committing a fraud internal to the company or |
| 10 | internal to the law firm, that's hypothetically |
| 11 | <pre>possible; right?</pre> |
| 12 | A. I cannot think of a single fraud that |
| 13 | you could perpetrate merely by misconfiguring the |
| 14 | time zone setting and not the time itself and |
| 15 | only doing it on the intermediary server, so I |
| 16 | think that is a farfetched hypothetical. |
| 17 | Q. So your opinion in this case that |
| 18 | there's the reason you think there's |
| 19 | backdating and fraud with the backdating isn't |
| 20 | because of one specific document that you can |
| 21 | conclude fraud from; true? It's a collection of |
| 22 | everything together, it's in context, as you say? |
| 23 | A. No, no. I think you have to take it |
| 24 | case by case. |
| 25 | So there are examples, for instance, |

Page 246 1 B. Rose 2 you know, you look at some of these, you look at some of these documents and I think you look at 3 them alone, they are clearly backdated, the 4 5 documents themselves are backdated. Now -- and 6 that happens multiple times throughout the thing. 7 If I see a system clock which generates 8 an error because it's 94 days off of the 9 Microsoft time, I know the system clock is off; 10 right? 11 If I see restore points that go --12 which should be sequential and go from December 13 2010 to September 2010, I know that there's been 14 manipulation of the system clock. 15 So in all these examples we're not 16 saying, Hey, there's been manipulation of the 17 system clock because we're considering this piece of evidence in the context of the entire case. 18 19 What we're doing is saying, Okay, let's 20 look at this document. This document is clearly 21 backdated. 22 Let's look at this document. This 23 document is clearly backdated and has been 24 manipulated. 25 Let's look at this document. This

Page 247 1 B. Rose 2 document has clearly been backdated. 3 Let's look an example of the error report, that is a clear example of where the 4 5 system clock is off. So you take each individual evaluation 6 7 separately, so you look at a document -- I'm not necessarily -- I'm looking at the metadata of 8 9 that, I'm not evaluating in the context of the 10 case, I'm evaluating that particular document. 11 When I see that's backdated and when I 12 see backdating in multiple versions and I see 13 manipulation of documents, you put all of that 14 together and you draw your ultimate conclusion 15 which in our case is, I think, clear evidence the 16 StreetFax contract is authentic and the Work For 17 Hire contract is not, so that ultimate conclusion 18 is built upon what I think is overwhelming 19 evidence from a variety of different sources that 20 show fraud, but each individual instance is 21 evaluated on its own and then you determine how 22 to interpret that in the broader context of the 23 case. 24 Q. Whenever you use the word "backdating" is that synonymous with a fraudulent motive?

25

Page 248 1 B. Rose 2 Α. I think it -- in my experience you 3 generally see backdating in a case of document manipulation, document fraud, it's certainly not 4 5 synonymous with it. And the 94-day system clock difference 6 Ο. 7 you just talked about, that's on the Seagate hard 8 drive, that's what you're referring to in the 9 report? 10 Α. I believe so. Can I refresh my recollection? 11 12 Sure. Q. 13 MR. DUPREE: Are we about to wrap 14 things up, I hope? 15 MR. BOLAND: Yes. 16 MR. DUPREE: Okay. Thank you. 17 Α. Yes. And the copy of the StreetFax contract 18 Q. 19 that's in Exhibit 1 there, you would agree with 20 me in large part is not legible, either one of 21 those pages, the way it is in that document? 22 MR. DUPREE: This is the version you 23 handed him today? 24 MR. BOLAND: Yes. 25 So we're back to -- so we're back to Α.

| | Page 249 |
|----|--------------------------------------------------|
| 1 | B. Rose |
| 2 | Exhibit F, second page |
| 3 | Q. Exhibit H was the first page. |
| 4 | A. So Exhibit F is the second page and |
| 5 | Exhibit H is the first page of the StreetFax |
| 6 | contract. |
| 7 | Q. And in the size that they are in that |
| 8 | report I'm sorry, in that exhibit I gave you, |
| 9 | in large part they are not legible? |
| 10 | A. I would say these exhibits, based on |
| 11 | size and, you know, the lightness of the ink and |
| 12 | other, you know, the way they appear in this |
| 13 | report, I mean, there are certain parts of that |
| 14 | that are legible, but most of it I would say |
| 15 | would be illegible. |
| 16 | Q. And Mr. Southwell had a version where |
| 17 | the document was significantly magnified. |
| 18 | Have you ever seen that version of the |
| 19 | StreetFax images? |
| 20 | A. I saw |
| 21 | MR. DUPREE: Object to form. |
| 22 | I'm not sure what we are talking about, |
| 23 | that's all. |
| 24 | Q. Have you ever seen a larger a |
| 25 | version of that image that you just talked about |

Page 250 1 B. Rose 2 in those two exhibits that was magnified to be 3 close to an 8-1/2-by-11 piece of paper? Have you ever seen that? 4 5 MR. DUPREE: Object to form. 6 Go ahead. 7 I have seen larger versions of this. Α. 8 Are they legible in all respects? Can Q. 9 you read all the words of those larger versions, 10 if you know? I don't recall having any difficulty 11 Α. 12 reading it. 13 Q. Do you know which one was given to the 14 Court, the smaller version of that exhibit or the 15 larger magnified version that you might have 16 seen? 17 Α. I do not. 18 And finally, in Mr. Broom's report he Q. 19 talked about the BIOS battery. 20 What is that on a computer, a BIOS 21 battery? 22 Α. A BIOS battery? I am not sure I've 23 ever hear it called a BIOS battery. It tracks 24 certain information about the computer itself 25 such as the system clock settings and other

Page 251 1 B. Rose 2 information. 3 Ο. Well, there's a battery on board the mother board of most desktop computers at least; 4 5 right? I don't know. 6 Α. 7 How does a computer know what time it Q. 8 is if you unplug it from the wall, for example? 9 Doesn't it have a battery that helps keep track 10 of the time for a while? 11 Α. I don't know. 12 Q. Have you ever heard of a CMOS battery? 13 Α. No. 14 What happens to the time zone setting Ο. 15 of a computer if you unplug it from the wall for 16 a year, what will happen to it's ability to know 17 what time it is when you plug it back in? I don't know whether it retains that 18 Α. 19 the entire time or whether when you plug it back 20 in it resyncs with the system clock, network clock, I should say. 21 22 Ο. This computer that the Seagate hard 23 drive came from, do you know if that computer was 24 ever unplugged for any period of time like a year? 25

| | Page 252 |
|----|---------------------------------------------------|
| 1 | B. Rose |
| 2 | A. I don't. |
| 3 | Q. So at this point you're not qualified |
| 4 | to give an opinion about a CMOS battery or a BIOS |
| 5 | battery? |
| 6 | A. I would not give an opinion about a |
| 7 | CMOS or BIOS battery. |
| 8 | MR. BOLAND: I have no further |
| 9 | questions, Mr. Dupree. |
| 10 | MR. DUPREE: We don't have any |
| 11 | redirect. |
| 12 | We are off the record. |
| 13 | (Time noted: 4:23 p.m.) |
| 14 | |
| 15 | |
| 16 | BRYAN J. ROSE |
| 17 | |
| 18 | Subscribed and sworn to before me |
| 19 | this day of, 2012. |
| 20 | |
| 21 | |
| 22 | Notary Public |
| 23 | |
| 24 | |
| 25 | |
| | |

Page 253 1 2 CERTIFICATE 3 STATE OF NEW YORK) 4 : ss. 5 COUNTY OF NEW YORK) 6 7 I, CARY N. BIGELOW, Court Reporter, 8 a Notary Public within and for the State of 9 New York, do hereby certify: 10 That BRYAN J. ROSE, the witness whose 11 testimony is hereinbefore set forth, was 12 duly sworn by me and that such testimony 13 given by the witness was taken down 14 stenographically by me and then transcribed. 15 I further certify that I am not 16 related to any of the parties to this 17 action by blood or marriage, and that I am in no way interested in the outcome of this 18 19 matter. 20 IN WITNESS WHEREOF, I have hereunto 21 set my hand this 23rd day of July, 2012. 22 23 24 CARY N. BIGELOW 25

Page 254 1 2 3 EXAMINATION BY WITNESS PAGE BRYAN J. ROSE MR. BOLAND 6 4 5 6 7 Rose Exhibit 1, Stroz Friedberg report 6 dated March 26, 2012 8 Rose Exhibit 2, declaration of Neil 9 82 10 Broom Rose Exhibit 3, supplemental 11 200 12 declaration of Paul D. Ceglia 13 Rose Exhibit 4, five-page document 205 headed "Shortcut File" 14 15 Rose Exhibit 5, article entitled "Real 228 16 Evidence, Virtual Crimes The Role of 17 Computer Forensic Experts" by Paul H. 18 Luehr 19 Rose Exhibit 6, article entitled 237 20 "Criminal Defense Challenges in 21 Computer Forensics" by Rebecca Mercuri 22 23 24 25

| | | | | | Page | 255 |
|----|--------|------------|-------------|------------|--------------|-----|
| 1 | | | | | | |
| 2 | | | ERRA | TA SHEET | | |
| | | VEF | RITEXT RE | PORTING C | OMPANY | |
| 3 | | | 1250 | BROADWAY | | |
| | | ľ | NEW YORK, | NEW YORK | 10001 | |
| 4 | | | 212 | -279-9424 | | |
| 5 | NAME C | OF CASE: C | CEGLIA VS | . ZUCKERB | ERG | |
| | DATE C | OF DEPOSIT | TION: JUL | Y 18, 201 | 2 | |
| 6 | NAME C | OF DEPONEN | NT: BRYA | N J. ROSE | | |
| 7 | PAGE | LINE(S) | CHA | NGE | REASON | |
| 8 | I_ | | | | .I | |
| 9 | I_ | | | | I | |
| 10 | I_ | | | | I | |
| 11 | I_ | | | | I | |
| 12 | I_ | | | | I | |
| 13 | I_ | | | | ۱ | |
| 14 | I_ | I | | | ۱ | |
| 15 | I_ | I | | | ۱ | |
| 16 | I_ | | | | ۱ | |
| 17 | I_ | | | | ۱ | |
| 18 | I_ | I | | | ۱ | |
| 19 | I_ | I | | | ۱ | |
| 20 | !_ | I | | | . | |
| 21 | | | | | | |
| | | | BRYA | N J. ROSE | | |
| 22 | | | | | | |
| | | RIBED AND | | | | |
| 23 | THIS - | DAY | OF | | _, 20 | |
| 24 | | | | | | |
| 25 | | | | | | |
| 20 | (NOTAF | RY PUBLIC) | 1 | MI COMM | ISSION EXPIR | E9: |
| I | L | V | ERITEXT REF | ORTING COM | PANY | |

Г

[& - 4th]

| & | 11:44 156:7 | 200 1:19 2:13 | 212-279-9424 255:4 |
|--------------------------------------------------|----------------------------|----------------------------|-------------------------------------------------|
| & 1:19 2:11 35:20 | 12 42:20 | 254:11 | 228 254:15 |
| & 1.19 2.11 33.20 58:15 59:7 62:24 | 123 90:7 | 2003 42:19 44:9,15 | 23 60:12,16 |
| 98:4 99:3,4 149:16 | 1250 255:3 | 45:2,13 46:10,13 | 237 254:19 |
| 149:16,18 150:10 | 13 54:23 180:15 | 72:14,23 74:25 | 23rd 253:21 |
| 150:11,16 152:16 | 134 238:9 | 124:20 125:8,17 | 24 58:6 60:11 61:3 |
| 160:3 177:4 195:5 | 139-2 200:25 | 126:3,3,8 142:13 | 61:11,13 79:8 |
| 244:9,12,20 245:6 | 13th 181:14 | 165:25 186:2,10,19 | 26 6:3 8:8 254:8 |
| | 144 59:22 | 187:17,17 188:10 | 28 122:22 123:21,25 |
| 0 | 1475 2:6 | 188:22 222:13 | 125:17 127:8 |
| 0002 194:23 | 15 33:2 34:3,9,13 | 231:10,17 232:17 | 128:15 129:2,19 |
| 002 93:13 | 35:11,14 37:3,9 | 233:2,23 | 188:10 |
| 00569 1:4 | 38:6,9 39:25 45:11 | 2003-2004 44:4 | 28th 123:17 129:11 |
| 02 59:8 | 45:19 76:3 83:8 | 2004 44:9,15 45:2 | 29 202:24 208:23 |
| 03 126:13,14 188:19 | 84:8 107:6,6 108:15 | 72:20 73:21 74:2,5 | 209:2 |
| 188:20 | 136:6 137:8 | 74:7,18 104:21,24 | 2:09 193:20 |
| 036 205:20 206:10 | 15th 42:14 46:21 | 105:4 149:14 156:7 | 2nd 222:13 |
| 1 | 16 76:9 | 156:12,13 158:8 | 3 |
| 1 3:10 5:6 6:2 8:5 | 163 55:7 | 159:14,24 165:25 | 3 200:20,21,25 |
| 9:3,16 10:20 14:18 | 17 55:10 | 169:6,12,21,24 | 254:11 |
| 17:10,23 19:12 | 172 203:4 205:22 | 170:5,10,15,17,18 | 3-1/2 192:25 193:6 |
| 20:13 30:8 40:6,18 | 206:16 | 171:8 172:9,11,24 | 3.2 85:21 86:6 90:5 |
| 58:6 60:16 87:6,7 | 173 202:23 203:2 | 173:16 233:23 | 30 89:11,23 90:4 |
| 87:14,17,20,23 | 18 1:14 121:18 | 2010 42:16,21 45:12 | 210:4 213:23 |
| 88:12,13,16,20 | 222:11 255:5 | 45:25 47:7 113:2 | 37 221:19 |
| 90:23,25 91:3 92:3 | 19 91:21 | 186:21 233:4 | 379 177:14 178:9,18 |
| 92:9,12,16,16 121:7 | 1:10 1:4 | 236:14 246:13,13 | 179:2,6,14 181:6 |
| 121:10 197:6 | 1st 236:14 | 2011 15:15,20 42:14 | 3:05 194:3 |
| 199:15 205:15 | 2 | 45:11,19 47:8 54:23 | 3rd 148:10,12 |
| 206:5,8 248:19 | 2 30:12,13 82:16,21 | 74:9,12 120:3 | 149:14 156:12 |
| 254:7 | 84:11 89:5 92:9,16 | 121:19 123:15,16 | 159:5,7,14,24 |
| 10 22:12 82:12,24 | 92:17 95:8 190:20 | 173:19 174:3,7 | 4 |
| 134:21,23 135:3 | 191:21,25 192:5,9 | 180:16 202:24 | |
| 136:17 229:17 | 192:15,15 205:16 | 222:11 | 4 89:8 205:3,4,10 |
| 10001 255:3 | 205:22 206:14 | 2012 1:14 6:3 8:8 | 206:2 254:13 |
| 10166-0193 2:14 | 208:22,23 254:9 | 42:20 45:12 74:23 | 400 10:7 151:11 |
| 102 27:17,23 29:6 | 2.3 238:12 | 122:22 123:17,21 | 179:9 |
| 76:9 91:21 | 2.4 85:21 86:6 90:5 | 123:25 127:8 | 419 109:2,17,25 |
| 10:09 1:15 | 20 33:2 34:3,9,13 | 128:15 129:2,11,19 | 44107 2:8 40 202:4 0 203:11 |
| 10:37 60:17,23 | 35:11,15 37:4,9 | 252:19 253:21 | 49 202:4,9 203:11 203:19 |
| 97:16,18 | 38:6,9 40:2 83:8 | 254:8 255:5 | 4:23 252:13 |
| 10:39 61:11 | 84:8 136:6 137:9 | 205 254:13 | 4:23 252:15 4th 149:24 158:7,8 |
| 11 87:8 88:17,21 | 255:23 | 21 84:18 85:7 107:6 | +111 147.24 130.7,0 |
| 90:2 155:19 250:3 | | 120:23 121:9 | |
| | | 155:18 | |

[5 - agree]

| 5 | 106:8 251:16 | 79:4,10,16 80:5,13 | actual 12:22 13:4,6 |
|---------------------------------------|----------------------------|-----------------------------|-------------------------|
| 5 228:6,10 254:15 | able 26:16 78:19 | 81:4 116:2,3,8,9,15 | 14:13 16:9 45:20 |
| 5-1/2 188:23 | 79:21,25 126:6 | 116:21 117:15,19 | 46:6 61:24 65:19 |
| 50 202:9 | 196:11 199:4 | 118:3,5,17,19,24 | 84:7 88:4 120:20 |
| 500 10:7 179:9 | absent 100:3 | 119:5,10,14,18,23 | 130:15 152:14 |
| 51 61:9 | absolutely 48:20 | 119:25 120:3,4,8,8 | 180:9 189:19 |
| 52 120:22,24 121:12 | 50:2,16 114:23 | 120:13,21 121:4,24 | 195:15 199:7,9,15 |
| 121:14 | 115:5,18,23 127:15 | 122:7,13,17,19 | 199:17 204:3,4,5 |
| 54 197:6,8 | abstract 226:10 | 123:2 124:6,10,16 | 206:8 207:6 211:4 |
| 5th 149:24 156:7,13 | accept 109:18 | 124:18,25 126:8,20 | 244:15 |
| 157:9 | acceptable 224:17 | 127:8 128:7,9,15,24 | adapt 75:19 |
| 6 | access 65:3,5,6,15 | 128:25 129:4,9,12 | add 233:12 |
| | 65:17,20 67:16,21 | 129:13,16,25 | addition 48:12 |
| 6 201:6 237:23,24 | 68:10,18,25 69:2,5 | 147:22 152:19,22 | 166:25 194:22 |
| 238:4 254:4,7,19 | 69:14,21 71:18,23 | 158:13,18,23 159:9 | 195:25 229:10 |
| 650 9:24 | 72:16,24 73:5,14 | 160:10,22 161:4,15 | additional 8:22,23 |
| 7 | 103:25 109:9,23 | 162:18,22 163:4 | 42:21,22 51:8 |
| 770724 2:7 | 110:6,13 111:5,10 | 168:2,5,8 171:6,9 | 160:20 184:19 |
| 8 | 111:11,17,20,21,23 | 172:19,24 182:15 | additions 8:21 |
| | 112:5,6,8,11,13,16 | 182:20,22 185:2 | address 113:3 |
| 8-1/2 87:8 88:17,21 90:2 250:3 | 113:12 114:18,20 | 188:25 230:19,22 | 122:16 241:10 |
| | 115:20 119:4 | accounting 223:13 | adelphia 97:21 |
| 82 254:9 | 134:12 184:2,9,20 | accounts 118:2 | 98:18,25 99:7 |
| 9 | 185:21 218:25 | 122:2 162:16 | 112:10 116:15 |
| 9 58:18 59:2 | 219:6 226:4 227:4 | 168:23 173:20 | 149:15 158:23 |
| 90 27:17,23 29:6 | 238:16 239:7,14,16 | accuracy 101:22 | 160:10 162:18 |
| 94 246:8 248:6 | 239:23 240:3,9,24 | 227:18 | admissibility 3:15 |
| 945 90:6 | 241:3,5,13 | accurate 92:15 | 4:5 |
| 950 10:2 | accessed 68:11 | 96:23 97:3,6,7 | admits 165:2 |
| 9:38 61:4 | 106:22 119:10 | 98:17 99:17 174:25 | advice 156:20 173:7 |
| 9:41 61:14 | 211:15 218:19 | 201:25 207:5 210:9 | affect 19:8 244:15 |
| 9:49 158:8 | 222:11 229:7 | 226:24 229:12 | affidavit 201:15 |
| a | 239:18 240:23 | 235:5,18 | aggregate 51:3 |
| a.m. 1:15 60:17,23 | accessibility 41:14 | accusation 50:6 | 183:2 223:17 |
| 97:18 156:7 158:8 | accessible 41:20 | accuse 50:11 | 233:13,14 |
| abbreviate 166:18 | 45:3 | accused 106:5 | ago 25:5 26:22 |
| 170:19,20 | accessing 113:18 | action 79:24 147:4 | 53:20 74:24 |
| abbreviated 166:12 | 239:11 | 219:17,19 239:21 | agree 11:2 14:20 |
| 166:19 169:7 | accidental 55:25 | 239:21 253:17 | 17:6,11,20 18:2,18 |
| abbreviates 166:20 | 56:5,5 | actions 106:5 | 20:24 24:5 27:7 |
| 169:14 | accidentally 216:13 | 142:17 activation 121:23 | 36:12,20 41:7,11 |
| abbreviations 169:6 | account 42:2,5 43:2 | | 50:10 51:17 54:15 |
| ability 69:13 73:3 | 44:8,12,18 59:15 | activity 121:16 | 54:18 55:5,19,23 |
| 103:22 105:8,21,23 | 76:17,20,22 77:2,3 | 123:19 241:16 | 56:3 62:9 66:14 |
| , , - | 77:5,10,14,21 78:25 | | 68:14 74:13 76:7 |

| 91:2 94:4 96:3 | amanda 2:18 3:4 | 130:12 165:11 | appeared 28:18 |
|----------------------------|---------------------------|---------------------|-----------------------------|
| 103:17,19 113:9 | ambiguous 86:20 | 217:10 | 47:13 51:20 91:5 |
| 118:18 126:5 | 203:2 | analyzing 35:8 84:8 | 132:12 195:8,11 |
| 143:20 144:13 | amend 62:13 104:23 | 95:20 | appears 28:7 30:2 |
| 145:13 146:12 | 213:24 | anomalies 130:18 | 91:3 92:20 96:3 |
| 158:10 181:20,24 | amended 16:3 164:9 | 130:20 131:2 | 97:3 102:7 142:14 |
| 182:7,12 206:23 | 164:15 | 222:16 241:17 | 156:12 158:11 |
| 209:25 210:2,10,11 | amount 141:8 | 243:14 | 159:13 165:19 |
| 216:18 229:14,24 | 236:15 | anomaly 131:13,15 | 174:2 201:13 |
| 238:22 239:18 | analyses 152:5 | 132:24 135:6 166:5 | 202:17 206:12 |
| 248:19 | analysis 12:22,25 | 212:16 213:7 | 210:12,13 229:17 |
| agreed 225:21 237:2 | 13:2,4,6,18,25 | 239:12 241:6 | appended 58:17 |
| 237:4 | 14:17 15:21 16:22 | 242:23 243:5,8,12 | 97:20 98:3,15 |
| agreeing 103:2 | 17:2,8,12 18:9 19:8 | 243:18,23 244:3,5 | 101:12,21 211:2 |
| agreement 147:15 | 19:19,22 20:18 34:8 | answer 7:20 10:14 | 222:4 244:18 |
| 214:18,25 215:4,10 | 34:13,22 35:14 | 10:16 26:6 32:24 | appending 176:17 |
| 215:21 216:16 | 36:19 37:9,18,24 | 33:4 37:22 51:13,16 | applications 143:22 |
| agreements 214:13 | 38:18 39:25 40:8 | 62:14 71:20 105:2,3 | apply 78:24 79:3 |
| 215:8,22 | 59:9,13 63:17 72:7 | 109:17 127:11,19 | 105:4 |
| ahead 83:6 201:11 | 72:8,12 77:6,8,10 | 128:10,11,21 138:2 | approach 7:23,24 |
| 250:6 | 78:7,14 80:14,19,21 | 138:21 168:18 | 35:2 224:24 |
| air 151:11 | 80:23 81:3,5,17,22 | 170:11 181:2 | approaching 192:25 |
| alert 6:23 | 82:3 92:25 93:4 | 212:22 218:8 226:9 | appropriate 183:13 |
| alex 87:25 153:23 | 96:6 105:19,22 | answered 39:9 | 187:12 237:16,20 |
| 154:4,7 | 106:2 107:24 111:2 | 51:23,23 127:22,24 | appropriately |
| alexander 2:15 3:2 | 112:20 123:13 | 135:21 162:2 | 185:10 |
| allegations 200:3 | 124:2,22 130:6 | answering 11:19 | approximately |
| alleged 156:8 | 137:18,21 148:24 | 127:6 150:20 | 22:12 37:8 97:16 |
| allegedly 156:6 | 150:10 153:20 | 168:21 | april 42:14 45:11,19 |
| 175:7 | 159:20 165:9,14 | answers 104:23 | 46:21 47:8 121:18 |
| allow 23:24 68:25 | 182:5 183:22 | anybody 244:21 | 123:15 125:17,25 |
| 69:20 71:17 72:2 | 184:13 189:12 | anything's 138:20 | 126:3,8,13 165:25 |
| 104:2 117:14 | 190:14 224:13 | 184:22 | 180:15 181:14 |
| 133:18,24 | 225:10 226:21 | apparent 47:22 | 188:10,22 231:10 |
| allowed 171:17 | 227:21 231:7,25 | 48:25 | 231:17 |
| allowing 68:10 | 237:12 242:12 | apparently 146:11 | area 90:5 113:4 |
| allows 68:9 | analyst 35:6 | 175:14 | 166:6,7 |
| alter 24:21 26:9 | analyze 19:20 32:4 | appear 3:18 21:19 | areas 39:21 139:20 |
| 132:18 | 38:2 43:17 149:8 | 25:21 28:4 50:13 | 165:13,18 224:16 |
| alteration 134:25 | 154:19 191:14 | 86:23 87:5 148:7 | ares 166:13 |
| altered 20:4,9 24:7 | 198:20 225:11 | 163:8 164:25 166:4 | argentieri 189:25 |
| 24:14 26:14 57:24 | analyzed 31:19,21 | 166:16 174:12 | 201:8 |
| 132:21 133:16 | 33:6 39:16 43:15 | 178:18 202:11 | arguing 190:14 |
| 212:8,10 218:19 | 83:10 105:11 | 211:5,13 249:12 | argument 54:24 |
| 238:16 | 107:12,13,17 | | 55:17 192:8 |

| [arose - | b] |
|----------|----|
|----------|----|

| amaga 47.7 49.12 | 217.19 219.10 | 195.11 225.5 | anald 192.0 |
|----------------------------|----------------------------|--------------------------|--------------------------|
| arose 47:7 48:13 | 217:18 218:10 | 185:11 225:5 | avoid 182:9 |
| arrive 19:16 216:17 | 220:6 232:10 | attributed 130:19 | aware 7:16 15:7,13 |
| article 228:6,11 | 234:24 | 241:18 | 15:21 16:19 23:23 |
| 229:15,18,20 230:2 | associations 4:2 | august 180:15 | 42:23 53:18 57:22 |
| 237:24 238:4 | assume 7:19 17:13 | 202:24 | 70:23 71:2,3 75:2 |
| 254:15,19 | 17:14,19 46:14 | austin 35:20 58:11 | 102:17,24 103:4,7 |
| articles 40:24 41:3 | 101:14 109:6,10,15 | 58:15 59:5,7,10,20 | 105:25 106:4,9,13 |
| aside 150:13 217:20 | 117:2 145:2,22 | 60:4 61:4,14 62:24 | 106:15 124:17,20 |
| 243:2 | 151:16 154:2 | 98:4 99:3,4,8 | 125:4,9,10,15,18 |
| asked 3:18 39:8 | 164:21 174:3,4 | 149:16,17,18 | 136:15 140:5 |
| 44:13 45:4 51:22 | 188:17 | 150:10,11,16 151:8 | 147:14,20 163:22 |
| 53:6 66:18 67:6 | assumed 241:12 | 152:16 160:3 177:4 | 164:3 165:6 173:6 |
| 80:18 83:20 100:18 | assuming 62:22 | 195:5 244:9,12,20 | 176:21,25 187:19 |
| 100:25 104:24 | 69:23 101:10 | 245:7 | 190:3,6,11,12 |
| 111:20 138:7,10 | 109:12 145:4 | authentic 15:8,10 | 199:24 207:23 |
| 166:22 168:17 | 188:16 207:3 | 16:5 17:18,21 18:17 | 208:2,12,14 218:17 |
| 182:13 | 224:18 235:25 | 18:24 19:2,6,6,13 | 218:23,24 219:2,5 |
| asking 7:7,21 24:11 | 240:18 | 19:21 20:4 102:20 | 237:6 |
| 26:13 31:18 36:20 | assumption 109:18 | 103:3,10 115:7 | awfully 151:15 |
| 39:19,23 44:20 | attach 164:14 190:8 | 144:12,17,20 145:4 | aycock 2:18 3:5 |
| 50:10 55:13 75:5 | attached 12:10,20 | 145:4,17 146:2,21 | b |
| 86:15 87:25 112:5 | 16:3 85:15 90:9 | 148:17,22 150:15 | |
| 117:12,17 126:11 | 91:12 92:10 93:9 | 151:12 153:5 | b 6:5 7:1 8:1 9:1 |
| 127:4 133:11 | 102:18 151:2 153:4 | 155:12 158:12 | 10:1 11:1 12:1 13:1 |
| 140:14 168:16 | 164:9,15,19,20 | 164:2,4,12 189:16 | 14:1 15:1 16:1 17:1 |
| 176:17 177:22 | 176:24 190:4 | 191:10 192:13 | 18:1 19:1 20:1 21:1 |
| 183:24 184:5,5,16 | 197:16 | 225:25 226:2 | 22:1 23:1 24:1 25:1 |
| 185:9 186:15 | attachment 180:5 | 231:23 247:16 | 26:1 27:1 28:1 29:1 |
| 191:19 208:9 | 181:9,13 231:9,18 | authenticity 22:20 | 30:1 31:1 32:1 33:1 |
| 212:17 | attachments 116:23 | 34:6 36:10,14,17,22 | 34:1 35:1 36:1 37:1 |
| asks 101:6 | 118:10,21 161:5 | 138:7 145:15 | 38:1 39:1 40:1 41:1 |
| asserts 110:6 | 163:24 178:10 | 148:25 153:3,13 | 42:1 43:1 44:1 45:1 |
| assess 136:21 | 180:7 181:8 | 163:21 225:12 | 46:1 47:1 48:1 49:1 |
| assessment 115:17 | attempt 114:25 | author 134:23 | 50:1 51:1 52:1 53:1 |
| asset 225:7 | 115:2 132:15 | authorization 69:15 | 54:1 55:1 56:1 57:1 |
| assets 32:15 33:12 | 142:20 155:13 | authors 134:21 | 58:1 59:1 60:1 61:1 |
| 33:17 35:23 52:6,7 | 173:14 | 135:3 | 62:1 63:1 64:1 65:1 |
| 52:25 53:3,5,7 54:3 | attempted 144:22 | automated 49:16 | 66:1 67:1 68:1 69:1 |
| 54:5 184:14 | attempting 141:7 | automatically 49:23 | 70:1 71:1 72:1,14 |
| assistant 131:16 | attention 194:11 | available 4:25 25:24 | 73:1 74:1 75:1 76:1 |
| 133:3 135:5,12 | 238:8 | 41:9,16,18 183:17 | 77:1 78:1 79:1 80:1 |
| assisted 12:22 | attorney 62:24 | 184:12 | 81:1 82:1 83:1 84:1 |
| associated 76:21,22 | 149:13,23 162:4 | avenue 1:19 2:13 | 85:1 86:1 87:1 88:1 |
| 96:18,22 134:5 | attorneys 2:5,12 | average 77:20 | 89:1 90:1 91:1 92:1 |
| 198:25 210:6 | 53:10,11 82:6 | average 11.20 | 93:1 94:1 95:1 96:1 |
| 196:23 210:0 | 33:10,11 82:0 | | |

| 97:1 98:1 99:1 | 231:1 232:1 233:1 | base 142:8 | believed 195:13 |
|-------------------|---------------------------|--------------------------|-----------------------------|
| 100:1 101:1 102:1 | 234:1 235:1 236:1 | based 11:20 18:4 | believing 195:20 |
| 103:1 104:1 105:1 | 237:1 238:1 239:1 | 28:13,18 30:11 | bell 53:16 177:15 |
| 106:1 107:1 108:1 | 240:1 241:1 242:1 | 33:10 35:16 36:18 | belonged 32:18 |
| 109:1 110:1 111:1 | 243:1 244:1 245:1 | 56:23 78:14 79:7 | belonging 32:15 |
| 112:1 113:1 114:1 | 246:1 247:1 248:1 | 93:19 96:25 98:9 | 62:21 149:12 |
| 115:1 116:1 117:1 | 249:1 250:1 251:1 | 110:19,25 116:3,9 | benjamin 2:17 3:4 |
| 118:1 119:1 120:1 | 252:1 | 117:19 118:4,8,17 | best 3:25 170:3 |
| 121:1 122:1 123:1 | back 19:16 30:23 | 118:19 124:11 | 238:20 |
| 124:1 125:1 126:1 | 60:15 82:20,22 83:5 | 126:12 131:19 | better 32:22 156:14 |
| 127:1 128:1 129:1 | 85:6 87:4 104:21 | 132:14 135:24 | beyond 18:8 19:3 |
| 130:1 131:1 132:1 | 118:14 130:7 137:4 | 141:22 150:9 | 53:22 80:17 148:7 |
| 133:1 134:1 135:1 | 137:5 159:9 163:2,5 | 156:18 159:9,12 | 192:10 |
| 136:1 137:1 138:1 | 163:15,21 167:9 | 160:14 163:7 | bigelow 1:21 253:7 |
| 139:1 140:1 141:1 | 170:24 172:9,11,17 | 165:20 172:5 | 253:24 |
| 142:1 143:1 144:1 | 172:24 173:15 | 174:18 179:10 | billable 9:24 223:7 |
| 145:1 146:1 147:1 | 216:17 227:14 | 211:5 225:10 | 223:14 |
| 148:1 149:1 150:1 | 234:20 242:2 | 226:21 233:8 | bin 117:4 |
| 151:1 152:1 153:1 | 248:25,25 251:17 | 237:12 249:10 | bios 250:19,20,22,23 |
| 154:1 155:1 156:1 | 251:19 | basing 160:5 | 252:4,7 |
| 157:1 158:1 159:1 | backdate 219:18,22 | basis 9:18 33:18 | bit 59:22 62:14 |
| 160:1 161:1 162:1 | 219:23 | 171:4,8,19 | 103:12 177:8 193:6 |
| 163:1 164:1 165:1 | backdated 102:15 | bathroom 82:13 | 194:12 |
| 166:1 167:1 168:1 | 190:15 213:16 | battery 250:19,21 | blacked 77:16 |
| 169:1 170:1 171:1 | 214:2 219:14,15 | 250:22,23 251:3,9 | blank 214:17,19 |
| 172:1 173:1 174:1 | 221:9 246:4,5,21,23 | 251:12 252:4,5,7 | blood 253:17 |
| 175:1 176:1 177:1 | 247:2,11 | begins 221:18 | blue 91:23 |
| 178:1 179:1 180:1 | backdating 149:6 | behalf 104:13 | blurry 159:18,19,21 |
| 181:1 182:1 183:1 | 154:25 213:19 | belief 166:14 | 159:22,23,24 160:2 |
| 184:1 185:1 186:1 | 217:17 219:12 | believe 5:18 8:24 | 160:6,7,9,21 161:5 |
| 187:1 188:1 189:1 | 220:4,13,25 221:2,6 | 9:25 12:6 22:2 | 161:8,14,17,23 |
| 190:1 191:1 192:1 | 221:14,17,23 222:8 | 25:21 32:13 38:15 | 162:4,6 |
| 193:1 194:1,18 | 241:18 242:19 | 42:10,17 44:6,16,17 | board 251:3,4 |
| 195:1 196:1 197:1 | 245:19,19 247:12 | 49:6 52:7 66:9 | body 157:16 178:11 |
| 198:1 199:1 200:1 | 247:24 248:3 | 76:25 77:3 84:2 | 178:18 179:6 |
| 201:1 202:1 203:1 | backup 43:15,18,21 | 85:11 94:12 96:24 | boland 2:4,9 3:6,6 |
| 204:1 205:1 206:1 | 43:23 44:5,8,11,14 | 111:14 116:16 | 3:12 4:11,16,18,22 |
| 207:1 208:1 209:1 | 44:20 45:2,6,8,22 | 122:14 140:6,13 | 5:2,5,11,18,24 6:9 |
| 210:1 211:1 212:1 | 46:2,8,14,15 | 156:10 165:10,24 | 15:6,18 16:12 18:3 |
| 213:1 214:1 215:1 | backups 44:22 | 169:18 175:7 | 21:13,16 29:3,20 |
| 216:1 217:1 218:1 | backward 94:6 | 186:18,23 190:7 | 31:25 32:3 33:15,20 |
| 219:1 220:1 221:1 | backwards 95:3,5 | 197:12,24 202:3 | 50:5 54:22 55:14 |
| 222:1 223:1 224:1 | 95:16,17 | 207:22 221:10 | 58:4,21 70:22 82:9 |
| 225:1 226:1 227:1 | ballpark 235:23 | 226:23 236:14 | 82:19,22,23 83:20 |
| 228:1 229:1 230:1 | | 248:10 | 85:2,5 86:11 87:19 |

| | 1 | | |
|----------------------------|--------------------------------------------|-----------------------------|----------------------------|
| 87:24 88:6,10 93:8 | browsers 168:12,16 | capable 104:19 | 245:24 246:18 |
| 93:15 109:24 110:2 | 168:23 173:20 | capacity 116:3 | 247:10,15,23 248:3 |
| 110:10 121:8,10,14 | bryan 1:17 3:8 | capture 23:9 | 255:5 |
| 127:10,17 128:2 | 153:23 154:4,8,9,9 | captured 23:12,16 | cases 4:10 13:25 |
| 136:16,20 137:3 | 252:16 253:10 | 24:4 | 52:4 54:3 100:11,13 |
| 168:19 180:14,25 | 254:4 255:6,21 | card 23:12 82:7,11 | 153:16,18,19 214:6 |
| 184:7 186:17 191:7 | buffalo 113:3 | careful 152:21 | 230:18,23 241:12 |
| 193:5,10,14,18 | 114:13 115:15 | carmine 77:4,11 | cataloged 72:6 |
| 194:4,12,17,21 | building 155:3 | 110:12 152:20,23 | categories 163:23 |
| 200:19 204:4 205:2 | buildings 151:3 | 158:18 | category 130:11 |
| 205:9 206:22 | built 247:18 | carmine's 77:7 | cause 47:22 105:6 |
| 224:22 229:21 | bunch 15:14 105:11 | carve 35:6 | 134:18 135:15 |
| 234:13,20 237:22 | business 217:5 | cary 1:20 253:7,24 | 172:23 175:13 |
| 248:15,24 252:8 | butt 62:11 | case 6:24 7:4,14 9:7 | caused 48:18,21 |
| 254:4 | button 23:11 | 10:21 13:18 14:11 | 56:12,14,20 135:7 |
| boland's 87:22 | buy 133:24 | 15:22 16:25 17:17 | caution 210:5,10 |
| bolster 99:8 | c | 18:6,14 31:25 32:3 | cd 25:7 66:19 134:3 |
| book 238:6 | | 32:5 37:6,12 40:19 | 221:20 |
| bother 36:3 | c 2:2 253:2,2 c.p.l.r. 3:22 | 41:19 47:3 52:13,23 | cds 57:6 |
| bottom 58:22 61:13 | calculate 232:11 | 52:25 53:3,13,24,25 | ceglia 1:5 3:7 12:23 |
| 63:22 154:14 | | 62:20 64:20 70:7,18 | 16:2 17:19 28:8 |
| 228:24 | calculated 85:20 86:13 | 70:24 77:13,13 82:3 | 35:18 36:19 61:22 |
| box 46:12 | | 99:24 101:16 | 62:2 63:4,4,9,18 |
| break 31:9 79:5 | calculates 89:9 | 102:25 103:8 105:6 | 64:13 65:16 67:15 |
| 82:12,25 83:3 | calculation 59:21 | 105:7,12,21,23 | 68:12,15 76:24 77:4 |
| 127:20 136:17,21 | 86:3,5,9,16,18 89:4 | 108:25 110:23 | 77:11,12,14 80:19 |
| 193:8,9 234:14 | 89:7,21 | 114:24 115:4,23 | 92:9 93:4 95:20 |
| breaks 7:11 | calendar 126:2 california 84:3 | 122:21 125:16 | 105:15 108:10,19 |
| brief 6:19 | | 129:22 132:2 | 108:20,22 109:8,21 |
| briefly 83:5 | call 74:23 137:11 | 135:24 137:23 | 109:23 110:7,11,13 |
| broader 82:3 247:22 | 145:14 164:6 | 141:4,12 150:13 | 110:13,18,20,22 |
| broadway 255:3 | 194:10 240:14 | 152:12,14 153:12 | 111:2 112:18,20,21 |
| broom 9:10 70:22 | called 6:5 21:3 52:14 71:5 74:25 | 153:15 154:20 | 113:11 114:20 |
| 75:6 82:17 85:13 | | 155:8,10 174:3,8 | 115:7,8,17 119:17 |
| 89:9 208:13 209:7 | 106:6 250:23 | 176:22 178:9 | 121:17 122:5 |
| 254:10 | calling 15:25 23:10 | 180:11,18 184:20 | 123:13 124:19 |
| broom's 26:20 | 24:3 120:10,11,12 | 185:5,12,15,20 | 128:6,13 129:16,24 |
| 72:12,19 74:10 | calls 136:11 207:11 | 188:16 189:5 | 138:9,16,17 139:24 |
| 84:15 85:8 89:4 | camera 23:6,10,12 | 190:10 201:2 203:4 | 140:17 141:6,9,10 |
| 90:16 250:18 | 234:19 | 205:8 215:10,12 | 141:14 146:3 147:3 |
| brought 219:11 | candidate 147:10,12 | 217:9,25 222:9 | 147:5,10,16,23 |
| 243:3 | capabilities 72:10 | 224:2 227:12 233:8 | 149:13 150:25 |
| browser 168:10 | 72:23 112:10 | 235:2 236:4,12 | 152:20,23,24 |
| 169:2 172:18 | capability 116:16 | 239:13 242:14,15 | 156:11,21 157:8 |
| | 117:18 | 244:8 245:8,17,24 | 158:12,18,19 159:7 |
| | | | ,,,,, |

[ceglia - collections]

| 161:4 162:21 163:3 | challenge 143:12 | 165:8,15 199:22,23 | client 15:8 18:7 |
|----------------------------|---------------------------|---------------------------|-----------------------------|
| 163:25 165:6 | challenges 163:20 | 200:2 232:4 | 124:6 126:20 |
| 167:23 169:2 | 237:25 254:20 | claimed 165:4 | 146:24 150:16 |
| 176:23 178:19,24 | challenging 142:23 | claiming 163:25 | 155:12 165:2 |
| 179:11 184:14 | 143:5,8,14,14 | 164:3,11 | 189:15 211:9 |
| 186:16 187:15,21 | chance 70:17 | claims 141:22 143:6 | 212:21 214:10,21 |
| 188:11,18 190:3 | change 82:8,10 | 143:8,13,15,16 | 214:25 225:23 |
| 195:4 199:24 | 109:20 110:16,24 | 164:21 165:7 | 231:22 233:18,23 |
| 200:22 201:3 | 115:16,20 134:5,7,8 | clarification 7:7 8:2 | client's 125:6 |
| 202:13,21 212:13 | 134:22 167:12,12 | 203:24 | 132:15 143:17 |
| 225:11 254:12 | 167:22 171:2 174:9 | clarify 21:11 45:16 | 175:16 211:12,23 |
| 255:5 | 255:7 | 60:7 66:13 70:20 | 231:15 |
| ceglia's 59:18 60:3 | changed 24:8,9,10 | 107:10 110:10 | clients 67:21 68:24 |
| 73:19 76:16,20 77:2 | 174:11 | 140:3 | 69:7 214:14 |
| 106:18 108:24 | changes 172:22 | clarifying 107:15 | clock 98:16,21,23 |
| 109:7 112:23 151:2 | 173:4,8 | classes 20:7 | 99:23,25 101:20,25 |
| 160:21 161:12 | characterize 63:15 | cleanup 73:14,16 | 102:7,10,15 149:6 |
| 183:22,23 187:14 | 69:20 | clear 5:16 16:8,11 | 174:19,22 211:5,23 |
| 201:15 231:8 | charge 183:10 | 36:17 42:12 44:11 | 218:12,16 219:18 |
| ceglias 62:21 | 225:10 | 54:20 67:7 88:9,11 | 219:24 220:3,21 |
| central 37:7 61:4 | charged 9:20 80:17 | 93:12 95:25 107:8 | 222:16 229:13 |
| certain 30:9 32:14 | 81:24 185:11 223:5 | 107:16,19 108:6 | 241:7 242:4 245:8 |
| 120:9 183:3,6 | 224:9,10,11 225:19 | 110:20 114:23 | 246:7,9,14,17 247:5 |
| 249:13 250:24 | chat 83:2 | 115:5 127:15 | 248:6 250:25 |
| certainly 10:17 | check 153:22 202:4 | 128:14,19 137:14 | 251:20,21 |
| 12:17 14:4 33:11 | chicago 108:19 | 141:24,25 144:6,8 | clocks 221:25 |
| 41:13,17,19 63:16 | choice 4:3 226:24 | 144:24 150:13 | close 136:18 172:3 |
| 69:3 73:15 75:15 | choose 207:14 | 152:18 155:17 | 250:3 |
| 77:25 95:11,15 | 238:19 | 167:3 176:11 | cloth 213:3 |
| 116:25 117:6 | circumstance 38:6 | 182:21 186:8 | cmos 251:12 252:4,7 |
| 119:11 138:13 | 133:8,14 134:15 | 201:19 202:16 | coach 88:7 |
| 139:2 145:19 196:9 | 239:9 | 212:25 213:7 | code 133:7 |
| 218:14 234:7 | circumstances 38:3 | 217:22 219:13 | collaborative 11:13 |
| 235:14,17 248:4 | 50:23 51:4,11,25 | 222:2 226:17 | collect 81:18 225:11 |
| certification 202:22 | 63:2 103:24 112:9 | 233:10 236:9 239:3 | collected 42:4,13 |
| 207:24 208:4,7,10 | 112:13 153:11 | 240:2 242:21 244:7 | 45:10 186:14 |
| 208:13 | 197:2 204:17 218:2 | 247:4,15 | collecting 50:25 |
| certified 3:17 14:7 | 219:16 220:8 | clearly 3:24 18:4 | 56:22 |
| 19:19 237:17 | 226:12 242:6 | 51:25 99:22 140:24 | collection 45:18 |
| certify 253:9,15 | 244:25 245:4 | 141:2,11 142:3 | 46:21 47:8 48:22 |
| cetera 116:23 232:9 | cited 201:14 | 146:20 152:7 159:3 | 50:8 56:21 84:4 |
| cfe 208:6 | civil 3:20 | 175:16 190:22 | 233:3,4 245:21 |
| chain 149:25 150:18 | claim 16:4 119:17 | 226:22 239:4,13 | collections 182:24 |
| 159:4,6,8 163:9,13 | 132:2 141:7 142:2,7 | 245:3 246:4,20,23 | 233:5,7 |
| 178:14 | 142:15,21 150:8 | 247:2 | |

[colon - consider]

| colon 157:18,19 | compile 223:22 | 209:14 210:21 | conclusions 11:3 |
|---------------------------|-----------------------|---------------------------|----------------------------|
| 167:5 | complaint 16:3 | 211:5,12,23,24 | 14:17 90:20 132:19 |
| column 228:23 | 164:10,16,19 | 215:2,2 216:22 | 137:22 |
| come 25:4 143:21 | 200:14 | 218:12 219:8,14,23 | conclusive 229:5 |
| 210:20 | complete 78:16 | 219:24 220:12 | conclusively 207:18 |
| comes 169:18 210:8 | 99:18 242:12 | 221:8,24 222:4 | 239:17 240:23 |
| 221:3 | completed 223:20 | 228:8 229:4,13 | conduct 51:12 170:9 |
| comfortable 243:24 | completely 70:6 | 230:14,18 236:25 | 183:5 |
| coming 137:21 | 113:21 152:13 | 237:2,5,25 240:8 | conducted 18:5 |
| comment 146:2 | 171:18 | 250:20,24 251:7,15 | 32:14 |
| 195:19 | comprehensive | 251:22,23 254:17 | confidence 99:9 |
| comments 12:18 | 184:15 235:19 | 254:21 | 100:5 101:4 |
| commission 255:25 | comprise 23:3 | computers 32:17,19 | confident 99:16 |
| commit 182:8 | comprised 20:13 | 32:23 33:5,25 34:4 | 101:15,18,22 102:8 |
| committing 50:12 | computer 12:25 | 34:9,13 35:11,15 | configuration |
| 50:21 175:16 | 23:17,19 24:21 | 37:4,10 38:6,10 | 117:22,23 170:25 |
| 179:12 245:9 | 32:18 34:25 40:25 | 40:2 57:3 69:14 | 171:4,16 |
| common 131:17 | 41:4,8 57:15 59:9 | 83:8 84:8 105:11,20 | configurations |
| 134:25 139:9 | 59:19 60:3 61:20,25 | 136:6,9 137:9,21 | 171:15,23 |
| 196:16 | 62:5,9,12,20 63:5,9 | 181:18,23,25 251:4 | configure 170:23 |
| communicate | 64:9,14,17 65:4,7 | concedes 18:14 | 173:14 |
| 136:10 143:23 | 65:11,15 67:17 | concept 219:11 | configured 117:11 |
| communicating | 68:11,13,16,18 69:2 | concert 141:10 | 118:16 119:3,7 |
| 158:13 | 69:10,11,22,25 | 147:7 | 172:17 173:15 |
| communication | 71:18 72:9,15 73:5 | conclude 78:2,16 | confirm 169:12 |
| 40:6 147:23 158:17 | 73:19,21 74:2,7,9 | 98:10 114:4 175:4 | 183:16 184:2 |
| 188:21,24 | 74:12,15 75:6 80:22 | 179:10,21 191:14 | 201:11 |
| communications | 84:16,22 86:23 | 196:20 204:16 | confirmed 44:13 |
| 183:8 185:20 | 96:19 97:3,24 98:11 | 242:10,24 244:11 | 169:13 |
| 224:20 | 101:12 102:15 | 245:21 | confirming 182:4 |
| company 35:7 106:9 | 103:21 104:12,16 | concluded 138:23 | confirms 98:19 |
| 245:9 255:2 | 104:17 105:8 106:3 | conclusion 19:11 | conflicted 226:5 |
| compare 49:3 | 106:18,22 108:23 | 65:21 74:9 97:9 | confuse 92:5 |
| 192:14 196:12 | 109:9,23 110:7,15 | 110:17 113:7,10,11 | confused 7:5 |
| 204:13 207:17 | 111:4,5,10 112:24 | 115:20 119:22,24 | confusing 27:21 |
| 222:24 | 113:5,13,18 114:3 | 120:6 124:5,11 | 183:19 238:12 |
| comparing 196:24 | 115:4,21 118:5,15 | 126:11,17,19 | conjunction 116:14 |
| 197:2 206:25 220:5 | 130:8,11,15 134:3,4 | 131:10,20 135:23 | connect 180:23 |
| comparison 192:20 | 139:22 140:16 | 139:23 140:17 | 222:21 |
| 223:3 | 143:19 148:14,15 | 146:4,14,17 147:2 | connected 84:22 |
| compensated 9:17 | 148:20 149:3,12 | 175:19 196:17 | connection 120:17 |
| compensation | 156:16 168:3,6,9 | 197:3 219:13 | connectu 52:15,22 |
| 223:24 | 174:18,22 182:4 | 233:25 242:11,21 | 52:25 53:3 |
| competing 229:6 | 190:18,24 191:19 | 243:16 245:2 | consider 75:13 |
| | 194:25 198:5 | 247:14,17 | 138:9 155:7 210:7 |

[consider - correct]

| 242:5 | contest 106:10 | 217:6,9,11 225:13 | 46:25 55:4 125:21 |
|-------------------------------------------|----------------------------------------|-----------------------------------------------|----------------------------------|
| consideration | context 22:24 99:20 | 231:10,17,18,21,23 | 125:22 161:17 |
| 183:13 | 102:3 149:10 | 242:17 247:16,17 | 164:10 182:24 |
| considered 138:13 | 154:20 155:8 | 242:17 247:10,17 248:18 249:6 | 189:24 195:13 |
| 143:3 185:16 | 156:18,22 160:5 | contract's 144:12 | 200:16 215:12 |
| 242:13 | 179:20 196:22 | 145:10 146:2 | 216:16 |
| | | | |
| considering 50:24 175:15 246:17 | 242:24 245:22 | contrary 110:8 | copy 5:6,9 8:7 16:3 |
| | 246:18 247:9,22 | contributed 9:25 | 20:4 30:11 37:25 |
| consistent 92:23 | contextual 62:18 102:5 152:4 | 10:4 11:16 12:18 | 38:4 42:15,19,20,21 |
| 97:22,25 98:8,14 | | 14:6 31:12 | 42:22 45:22,24 46:9 |
| 100:8 101:16 112:4 | continue 93:16 94:6 | contributing 235:3 | 46:12,16,17,23 48:2 |
| 131:11 149:25 | contract 14:10,11 | control 69:22 72:15 | 48:3 88:19 92:12 |
| 167:13,22 171:7 | 14:21,23 15:4,10,25 | 104:2 | 107:12,21,23 108:5 |
| 175:6 214:5 226:19 | 16:5 17:7,9,16,18 | convention 92:19 | 108:8,9,11,14,17 |
| consistently 171:9 | 17:21,23 18:6,6,7 | 93:7 201:20 | 109:13 134:2,4 |
| constellation 243:3 | 18:15,16,19,24,24 | conversation 6:13 | 139:4 140:23 |
| construction 238:20 | 18:25 19:2,6,7,8,12 | 6:17,20,22 139:18 | 147:15 149:19 |
| consultation 53:9 | 19:13 20:12 21:19 | 150:17 152:17 | 151:8 167:10,11,13 |
| cont'd 194:20 | 23:3 24:12 28:8,12 | 173:10 | 189:22 192:14 |
| contact 173:12 | 28:17 34:7 36:11,15 | conversations 7:13 | 195:15 196:21 |
| 240:14 | 36:18,23 91:14 92:3 | 184:11 224:25 | 199:17 203:19 |
| contain 115:7 222:7 | 92:10,13,17,18 96:4 | 225:5 | 210:22,23,24 |
| 225:22 | 97:17 102:20,22 | conversion 55:2 | 211:24 212:4 231:9 |
| contained 35:19 | 103:3,9,10 107:3,11 | 56:23 | 233:19 248:18 |
| 216:10 233:2,3,17 | 107:17 115:7 | convert 179:3 | copying 29:2 112:2 |
| container 177:13 179:23 | 125:15,16,20 126:13 141:23 | coordinated 165:18 173:25 174:12,14 | 168:3,5,6,7 corner 58:8 84:19 |
| containing 164:25 | 142:9,13,14 144:10 | 173.23 174.12,14 | 91:22 208:25 |
| 165:7 217:24 | 144:15,17,20,24,25 | 174.23 175.3,13,18 | corollary 144:23 |
| contains 97:17 | 144.13,17,20,24,23 | 179:7,17 180:21 | correct 5:24 8:13 |
| 150:7 172:15 | 146:15,21,24 148:2 | copied 25:7,9,11,22 | 12:11 13:13,16 |
| contemporaneous | 140.13,21,24 148.2 | 25:25 26:5 65:18 | 19:14,15,19 20:14 |
| 233:22 | 149:21,23 150:5,8 | 66:19 90:3 95:6,9 | 20:17,19,21,25 21:5 |
| content 123:16 | 150:14,15 152:15 | 96:14,19 111:8 | 23:24 25:5,10,13,16 |
| 125:10 128:24 | 153:23 154:8 | 139:12 164:16 | 26:11,12 31:12,13 |
| 131:6 139:5 159:13 | 155:12,14 156:20 | 165:2 169:3 172:23 | 31:17 37:4 38:4 |
| 195:15,17 196:2,12 | 159:14 164:3 188:9 | 173:19 195:11 | 43:2 44:15 45:21,23 |
| 196:13,19 204:14 | 188:11,22 189:5,10 | 211:9 229:9 | 47:4,11 56:7 58:13 |
| 211:8 212:17,19 | 189:15,16,19,24 | copier 90:3 | 59:5 61:5,12,15,17 |
| 222:17,23,24 223:3 | 190:6,14,17,20 | copies 5:15 14:14,22 | 61:19 63:8,23,25 |
| 223:3 | 191:3,10,12,22 | 16:15 23:4 32:11 | 64:4,15 65:13 66:17 |
| content's 139:14 | 192:2,5,9,12,13,15 | 37:20 38:16 41:25 | 67:15 68:2 71:16 |
| contents 78:15 | 192:16 199:15 | 42:4 43:15,18,21,24 | 77:18 80:2 83:12 |
| 117:14 178:6 | 205:15,16,20 206:4 | 44:5,8,11,14,20 | 85:21 88:14,21 |
| 224:20 | 206:8,14 215:24 | 45:2,5,7,10,14 | 90:25 93:25 94:11 |

| 04.16.17.07.04 | 4 22 10 | _ | 160 11 040 6 |
|-----------------------------|-----------------------------|---------------------------|-----------------------------|
| 94:16,17 97:24 | courts 22:19 | d | 162:11 248:6 |
| 98:24 99:6,11,22 | covered 32:13 35:17 | d 1:5 121:2 200:22 | 252:19 253:21 |
| 100:4 105:15,16,18 | create 49:24 55:3 | 254:2,12 | 255:23 |
| 107:5,7,9 121:17 | 75:13,19 85:14 87:2 | data 35:6 41:13,21 | daylight 165:20 |
| 125:3 126:4 130:14 | 115:2 130:20 132:8 | 42:20,20,21 45:11 | 166:4 174:5,6,11 |
| 132:4 137:13,19 | 132:11,16 140:24 | 51:3 101:3 116:12 | days 66:22 118:14 |
| 143:24 144:21 | 141:3,4,12 142:11 | 121:3 123:6,11,12 | 156:10,13 158:22 |
| 146:6 148:6 154:12 | 142:12 144:18 | 123:20 124:3 127:9 | 160:8 161:8 162:5 |
| 156:2,10 157:11 | 183:2 | 129:3 148:21 168:8 | 162:25 163:6 246:8 |
| 158:2,9,14,20 | created 24:18,20,25 | 172:16,18,23 | dbx 75:22 76:4 |
| 162:14,22,23 | 25:2,17,20 57:25 | 173:19 183:2 199:2 | 77:21 |
| 165:12,15 174:24 | 66:2,8,11,16 93:22 | 199:2,3 207:4 | deal 241:20 |
| 175:10 182:6 186:4 | 93:23 94:14 96:6,8 | 211:11,22 227:6,11 | dealing 20:20 41:14 |
| 191:7 197:24 | 96:9,11 102:14 | 227:19,24 242:16 | 97:24 241:23 |
| 200:11 205:24 | 140:21,22 148:8 | date 6:4 37:9 82:18 | dean 2:9 3:6 175:25 |
| 207:21 222:19 | 173:4 195:9 222:13 | 97:11,15 99:9,17 | december 54:23 |
| 223:3 224:22 | 229:7 233:21,23 | 101:4,21,23 102:12 | 246:12 |
| 227:25 244:16 | creation 96:18,20,22 | 114:11 120:9 | deciding 233:12 |
| correction 121:11 | 97:6,11,14,15 98:10 | 124:22 125:17,23 | decision 13:20 |
| correctly 66:12 | 99:9,17 101:4,22 | 125:23 134:12,12 | declaration 47:6,9 |
| 174:23 195:3 | 102:12 134:12 | 156:5 188:12 | 47:13,21 48:2,14 |
| correspondence | 146:23 219:22 | 200:23 205:6 210:5 | 82:16 102:25 |
| 81:21 | 220:2 226:4 | 211:19 218:15,25 | 108:25 110:12,16 |
| corresponding | credible 110:22 | 219:20,20,22 220:2 | 187:15 200:22 |
| 177:16 | crimes 228:7 254:16 | 226:4,5,8,24 228:9 | 201:2 202:13 |
| counsel 6:14,23 9:10 | criminal 237:25 | 238:3 239:7,8,14,16 | 203:12,19 206:10 |
| 9:13,20 38:18 39:11 | 254:20 | 240:10,24,25 241:3 | 231:8,15 254:9,12 |
| 83:2 | crutcher 1:19 2:11 | 241:5,6 243:14,18 | declarations 47:2 |
| count 94:6 | current 4:22 8:20,21 | 243:23 244:3,5 | 103:6 110:8 |
| counting 95:2,5,17 | 8:24 9:23 10:6 | 255:5 | declare 153:5 |
| county 253:5 | 74:23 78:15 173:18 | date's 174:7 | declared 109:8,22 |
| couple 83:6 95:5 | currently 75:6 | dated 6:3 8:8 180:15 | dedupe 49:8 50:8 |
| 118:9 137:5,6 | 214:10 | 181:14 254:8 | 51:6 |
| 177:10,14 | custodian 184:25 | dates 96:18,20,22 | deduping 51:2 |
| course 49:8 220:18 | cut 147:11 164:25 | 97:6,6,7,14 171:6 | default 92:20 93:2,5 |
| 225:15 | 165:5 166:21,24 | 219:7 220:5,15 | 93:6 94:2,5 |
| court 1:2,21 9:15 | 167:23 176:15 | 225:25 227:4,5 | defect 24:6 |
| 11:5 17:17 20:2 | 215:14,16,24 216:4 | 228:3 229:4,7 | defendant 52:5 |
| 28:5 30:6 33:23 | cutting 167:20,20,25 | 233:22 239:23 | defendants 1:10 |
| 35:17 36:13,21,21 | cv 1:4 8:19 9:2 | 240:3,4,16 241:13 | 2:12 3:3 10:9 39:16 |
| 84:15,24 91:6 107:8 | 12:20 208:15,17 | 243:6,9,12 | 39:25 40:8 42:23 |
| 138:10 163:24 | cvs 12:5,6,10 | dating 244:15 | 43:7 185:7 187:6,10 |
| 198:3 214:16 225:9 | | day 17:15 54:24 | 199:22,22 202:24 |
| 225:20 250:14 | | 156:8 161:13 | 206:15 207:7,10 |
| 253:7 | | | |

[defense - discuss]

| defense 6:13,22 9:10 | depends 102:5 | determining 36:14 | 26:4 41:12 108:3,4 |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 9:13,20 38:18 39:11 | 103:23 116:24 | 36:22 | 108:13,18 143:2 |
| 83:2 224:25 225:5 | 117:10 130:25 | detrimental 145:23 | 148:2 155:15 208:6 |
| 237:25 238:18 | 196:22 209:22 | device 25:9 148:6 | 232:12 237:13,13 |
| 254:20 | 210:23 | 197:9,12,21 198:19 | dimension 85:20 |
| define 111:15,18 | deponent 255:6 | 198:23 199:5 | dimensions 85:13 |
| defined 22:5 236:24 | deposed 7:5,13 | 207:10 | 85:17,20,25 86:13 |
| definition 23:13 | 18:14 | devices 137:25 | 86:14,24 88:24 89:4 |
| 56:9 237:2,5 | deposing 87:24 | 138:4 197:16 | 89:10,22 90:12,17 |
| definitive 113:7 | deposit 104:16 | dial 127:18 | direct 7:6 95:10,23 |
| delete 130:17 | deposition 1:17 3:16 | differ 59:21 60:5 | 131:8,9 159:10 |
| deleted 47:22,23 | 3:24 4:5,8 6:25 7:12 | difference 49:5 56:2 | 187:13 |
| 78:6,8,18,20 79:21 | 7:15 9:6 18:23 | 61:6,9 167:2 168:15 | directly 169:18 |
| 79:22,23 80:4,13 | 54:13 83:3 100:15 | 201:20 243:6 248:6 | 170:12 189:18 |
| 116:22 117:2,3 | 100:16 255:5 | differences 47:7,24 | 238:17 |
| 119:18,22,25 120:6 | depositions 9:7 | 48:9,12,19,21 49:11 | director 228:17 |
| 123:18,18 124:7,9 | 100:19 | 49:18,20,25 50:3,13 | 230:6 |
| 126:9,16,22 127:16 | derived 90:17 | 50:22 51:20 54:17 | disagree 86:3,5,15 |
| 128:7,9,13,17,20,20 | describe 11:5 12:12 | 55:2,21 56:12,17,18 | 86:18 89:3,20 |
| 128:22,23 129:4,5,6 | 28:5 30:5 32:16 | 56:24 57:4,8,13 | 113:21 176:12,16 |
| 129:8 195:8,16,22 | 185:13 198:3 | 166:8,23 176:6,10 | 210:11 238:23,24 |
| 222:11,17 | description 32:22 | 176:15 | 240:5 |
| deletion 121:3 | 85:16,17 | different 47:3 49:7 | disallow 238:21 |
| 123:20 | desktop 67:22 251:4 | 85:23 91:4 92:25 | disaster 43:24 |
| delineated 45:9 | despite 123:15 | 94:4 95:7 104:25 | disc 44:22 |
| deliveries 42:11 | detail 139:21 | 107:4,18 117:11 | discard 101:7 |
| 43:12 | detailed 60:13 | 139:15 162:16 | disclaiming 192:4 |
| delivery 42:17,18 | 140:12 151:6 | 163:15 173:19,21 | discovered 21:25 |
| 46:5 | details 189:3 | 184:5 189:4,21,22 | 28:8 75:17 |
| demonstrate 98:16 | detected 73:10 | 192:21,25 201:13 | discovery 21:22 |
| 99:22 | detection 182:9 | 201:21 209:18 | 33:23 35:17,21,25 |
| denominated 92:8 | determination | 214:25 215:11,11 | 36:4,6,13 42:24 |
| department 209:5 | 115:22 237:8 | 215:17,19 216:6,8,9 | 43:9 80:18 81:5,10 |
| 209:13 | determine 19:21 | 216:20 217:8 220:5 | 183:2,18,21 185:13 |
| depend 67:24 | 20:9 25:23 72:20,22 | 220:15 222:25 | 188:2 200:9 236:10 |
| 101:24 119:2 | 77:6 141:18,21 | 230:12 247:19 | 236:11,13 |
| 153:11,19 226:11 | 161:20 169:24 | differently 229:8 | discovery's 36:16 |
| 242:25 | 183:6 199:4 204:7 | difficult 62:16 | discredits 218:18 |
| dependent 218:15 | 220:4 225:24 226:5 | 223:12 245:2 | 238:15 |
| depending 9:22 | 239:17 241:23 | difficulty 250:11 | discrepancies 55:3 |
| 57:13 69:19 95:14 | 242:9 247:21 | digital 10:3 18:3,4 | discrepancy 48:10 |
| 119:7 131:15 | determined 13:21 | 19:9,18,20,22,25 | discuss 9:9,12 38:17 |
| 153:17 196:24,25 | 17:17,21 107:24 | 20:8,23 21:4,7 22:4 | 70:2 119:20 131:3 |
| 204:16 229:8 241:8 | 108:3 137:17 170:2 | 22:15,17,18 23:6,10 | 220:18 |
| | 195:10 233:20 | 23:16 24:17 25:24 | |

[discussed - e]

| discussed 35:15 | 156:15 164:6 165:3 | 246:5 247:13 | duplicate 42:22 |
|----------------------|---------------------|----------------------------|------------------------------------------|
| 130:22 137:7 | 176:11 178:2,12 | doing 56:21 80:14 | 189:23 |
| 188:11 211:2 | 181:10,15 191:5,16 | 104:19 151:25 | duplicating 5:14 |
| 213:10 220:24 | 191:17 198:6 | 175:8 224:6 225:19 | dupree 2:16 3:4 |
| discusses 85:13 | 199:16,16,18 | 233:12 245:15 | 194:6,15 203:24 |
| discussing 13:8 | 200:24,25 201:7 | 246:19 | 205:7 206:18 |
| 103:14 159:13,18 | 202:15 205:4,7,11 | dollars 10:7 | 207:11,15 212:2 |
| 216:7 227:13 | 206:19 209:8,25 | double 190:21 | 218:22 224:3,14 |
| discussion 38:20,23 | 212:20 215:17 | doubt 29:16 234:12 | 229:16 231:11,20 |
| 38:24 58:11,14 85:4 | 216:2,8,21 219:19 | downloaded 25:14 | 234:16 237:19 |
| 138:15 197:19 | 219:21,24 221:18 | downtown 151:4 | 248:13,16,22 |
| 221:16 | 222:5,12 225:20 | dr 238:5 | 249:21 250:5 252:9 |
| discussions 54:2 | 227:4 231:22 238:9 | draft 214:6 | 252:10 |
| disk 25:4 66:22 | 238:10 239:10 | drafters 235:10 | duty 42:24 |
| 221:11,13,21,22 | 240:24 242:9,18 | drafting 11:13 | e |
| 222:6,6 233:17 | 243:4,8,10,24 | 13:10 | e 2:2,2 6:5 24:19 |
| disks 221:25 227:12 | 244:15 245:20 | drafts 12:17 214:8 | 26:8 32:12 35:20 |
| display 171:18,23 | 246:20,20,22,23,25 | draw 238:8 243:15 | 40:5 42:2,5,14,15 |
| 172:4 174:18 | 247:2,7,10 248:3,4 | 243:17 245:2 | 40:5 42:2,5,14,15 42:25,25 43:8,16,21 |
| displayed 171:9 | 248:21 249:17 | 247:14 | |
| displays 171:6 | 254:13 | drawing 113:6 | 43:22 44:5,8,12,14 |
| dispute 90:15 | documentation | 135:23 | 44:18 45:5,11,15,20 |
| 227:18 231:8,14 | 34:12 | drawn 213:4 242:12 | 46:8,12,17 47:8,14 |
| 232:4 233:24 | documents 22:21 | drive 24:19,25 25:2 | 47:14,22,23 48:19 |
| disputed 125:16 | 34:16,18,22 51:6,8 | 25:11,12,18,20,22 | 49:4,7,7,20 50:7,9 |
| disputes 227:20 | 65:18 66:10 67:22 | 26:7,14 65:19 66:2 | 50:13,22,25 51:21 |
| disputing 29:23 | 85:14,18 86:21 93:7 | 66:8,11,16,24 67:2 | 54:18 55:4 56:19,22 |
| district 1:2,3 | 95:14,15,24 115:3 | 67:10,24 93:22 | 57:7 58:15,17 59:5 |
| division 11:11,20 | 131:4 132:11 | 94:15,20,21,23 95:2 | 59:7,11,15,15,19,20 |
| divorce 149:2 | 140:21 142:20 | 95:7,9 96:10,12 | 60:3,6,14,17,20 |
| doc 140:23 | 144:14,18 148:8 | 107:11,13,21,25 | 61:10,21 62:7,8,20 |
| document 14:7,8 | 149:6 163:23,23 | 108:2,4,9,13,18 | 62:22 63:4,6,10,15 |
| 15:7,9,14,15,19 | 164:15,24 165:7,10 | 111:8 112:3 148:9 | 63:19,21,22 64:10 |
| 16:2,10,16 21:2 | 167:5,11 172:2,15 | 195:9,11,12 203:8 | 64:13,18 65:10,11 |
| 22:22 27:25 29:6 | 173:4 183:6 189:4 | 203:21 221:4,7 | 73:20 76:16,20,21 |
| 48:25 56:3 57:11,23 | 189:20 202:18,21 | 248:8 251:23 | 76:22,24 77:2,14,20 |
| 85:24 96:16 109:2 | 211:8,21 212:10,12 | drives 32:18 107:18 | 78:3,4,5,8,18,20,25 |
| 109:16,25 115:2 | 213:16,18 214:2,3,7 | drop 134:24 | 79:3,10,15,16,19,20 |
| 131:5,12 132:9,12 | 215:15,20 216:10 | duly 6:6 253:12 | 79:23 80:4,4,13 |
| 132:13,16,17 | 217:18,24 221:10 | dunn 1:18 2:11 51:8 | 81:4,9,14,17,20 |
| 134:22 135:2 138:8 | 222:10,10,12,14 | 53:10 118:7,20,23 | 85:15 90:9 91:13 |
| 139:6,13,15 140:22 | 225:22 226:15,21 | 123:10 183:4,11,14 | 97:16,20 98:11,13 |
| 140:25 141:3,5,12 | 226:22 230:18,22 | 187:13 215:10 | 98:18 99:5,7,14,15 |
| 142:9,11,25 145:15 | 233:18,21 234:3 | 224:21 225:18 | 99:19,21 101:2 |
| 146:11,16 155:24 | 242:7 243:13 246:3 | | 102:2,19 104:9,10 |
| 140.11.10 1.0.24 | | | |

[e - evidence]

| | 1 | | |
|---------------------|----------------------|--------------------------|-----------------------------|
| 104:13 109:10,21 | 178:23 179:5,16,22 | 135:11,16,18 136:2 | entire 10:23 17:3 |
| 110:18,20 111:3,6 | 179:24 180:4,9,15 | 139:19,24 140:6,18 | 103:8 117:14 |
| 112:18,25 113:13 | 181:12 182:15,20 | 142:18 147:8 | 118:16 127:11 |
| 113:16,17 114:12 | 182:22 183:7,10,18 | editorial 12:18 | 154:20 155:8 |
| 114:15,16,22,24 | 183:23 184:3,9,19 | editors 130:17 | 163:12 202:15 |
| 115:5,6,12,25 | 185:2,8,14,19 186:3 | eduardo 53:14 | 246:18 251:19 |
| 116:21 117:19 | 186:11,16,23 187:3 | effect 51:7 166:3 | entitle 223:24 |
| 118:8,9,17,20,23 | 187:7,11,16,20 | eight 74:24 | entitled 201:2 228:6 |
| 119:14,18,22,24 | 188:3,12,18,21,24 | either 22:25 41:24 | 237:24 254:15,19 |
| 120:4 121:18,22 | 188:25 189:25 | 42:3 73:13 79:24 | equate 49:9 |
| 122:6,9,13,16,16,19 | 190:8 191:24 192:3 | 95:20 139:3 176:8 | equivalent 79:14 |
| 122:22,23,25 123:6 | 194:2,2,18 210:6,8 | 186:13 214:24 | eric 9:24 12:15 |
| 123:14,15,18,23,25 | 210:9,18,19,20,21 | 234:8 238:18 | errata 255:2 |
| 124:6,9,13,15,17,21 | 211:7,10,12,14,20 | 248:20 | error 175:14 220:23 |
| 124:23,25 125:4,7 | 211:25 212:3,7,12 | electronic 19:24 | 246:8 247:3 |
| 126:6,12,15,20,21 | 212:14,18,24 213:2 | 20:17,20 22:20 | escape 244:19 |
| 127:7 128:7,8,13,15 | 213:4 216:4,11,17 | 30:17,19,22 31:3,20 | esq 2:9,15,16,17,18 |
| 128:20,22 129:3,6,8 | 217:24 225:14,23 | 31:24 32:4 40:16 | essentially 30:10 |
| 129:12,13,17,19,20 | 226:14,18,23 227:3 | 52:3 53:3,13,24 | 73:16 131:7 132:10 |
| 129:25 138:14,18 | 227:6 228:12 | 54:3 144:14,18 | 133:3 135:4 198:4,7 |
| 146:23 147:20,21 | 230:18,22 231:16 | 145:5 182:25 | 198:21 222:5 230:4 |
| 149:4,13,14,15,19 | 232:5,18,21 233:2,6 | 185:19 217:9 225:7 | 233:12,14 |
| 149:21,25 150:9,15 | 233:11,16,19 253:2 | 231:19 | et 116:23 232:9 |
| 150:18,24 151:8,17 | 253:2 254:2 | electronically 136:9 | evaluate 20:8 34:3 |
| 151:17 152:7,15,18 | earlier 22:5 65:24 | elements 213:8 | 36:3,17 72:19 89:7 |
| 152:19,24 153:4,21 | 74:18 87:9 94:8 | eliminate 111:11 | 90:19 99:20 177:18 |
| 153:25 154:3 156:6 | 103:12 110:8 | 112:15 | evaluated 15:14,19 |
| 156:9,11,19 157:4 | 166:22 | elliot 1:8 | 34:2 36:5 136:8 |
| 157:10,12,17,17,21 | earliest 93:18 | embedded 198:15 | 137:8 164:21,24 |
| 158:17,23 159:3,4,4 | 124:19,21 | 198:17 227:6 | 211:7,9 227:11 |
| 159:7,8 160:11,20 | early 41:22,23 | employed 202:20 | 247:21 |
| 161:3 162:12,15,16 | 184:13 | employee 245:6 | evaluates 34:25 |
| 162:17,19 163:2,9,9 | easily 218:19 223:20 | employees 81:21 | evaluating 247:9,10 |
| 163:12 164:10,12 | 238:16 244:14,19 | 106:11,14 215:3 | evaluation 35:2 |
| 164:14,17,21 165:7 | eastern 58:24 60:24 | encase 131:18 135:8 | 38:18 72:25 73:19 |
| 165:10,16,19,23,24 | 166:2,4 226:19 | ends 150:13 205:20 | 101:25 233:8 247:6 |
| 166:3,9,10,19,20,22 | edit 215:22 | 205:22 206:10,15 | event 151:12 |
| 168:14 169:3,7,11 | edited 212:8 216:2 | enforced 146:6 | everybody 214:23 |
| 169:15 170:19,20 | 226:22 | engage 147:3 | everyone's 79:18 |
| 171:17,17 173:16 | editing 23:24 213:2 | engaged 48:17 | evidence 3:21 25:24 |
| 174:2,9,13,15,16,24 | 216:5 | 50:25 155:13 | 26:4 28:21 30:18,19 |
| 175:5,14,15,17,21 | editor 130:3,8,11,14 | 244:13 | 30:22 31:3,20,21,24 |
| 175:22,23 176:3,18 | 130:15,19,19 131:7 | engagement 8:23 | 32:4,6 34:5 36:10 |
| 176:21,22 177:4,9 | 131:12,21 132:2,10 | entered 147:16 | 40:17 41:10 51:14 |
| 178:10,11,12,17,18 | 132:18,22 133:10 | | 51:18 52:3,22 53:13 |

| 53:23,24 62:18 63:7 | 203:19 | 88:2,4,12,15,16,20 | 41:9,12 69:12 84:16 |
|---------------------|----------------------------|-----------------------------|-----------------------|
| 63:11,12,13,13,16 | exactly 19:4 22:23 | 90:23,25 91:3,10 | 100:10,11,12 |
| 63:16 64:20 65:14 | 32:25 181:9 206:6 | 93:9 107:6 120:23 | 102:19 182:2 |
| 73:6,10,13,14 75:7 | 235:24 | 121:7,9,10 155:19 | 191:16 204:11 |
| 78:8,12,19,21 83:14 | examination 6:8 | 197:6 200:20,21,25 | 205:11 207:25 |
| 83:17,25 84:5 92:24 | 194:20 254:3 | 205:3,4,10 206:2 | 208:12 209:22 |
| 95:19,22 96:2 97:23 | examine 138:8 | 207:5 208:20,21,22 | 219:9 227:9 233:19 |
| 98:9,23,24 99:15,25 | examined 6:7 41:12 | 208:23 228:6,10 | 237:10,10,11,15,18 |
| 100:7 101:8,16,19 | examiner 14:8 | 237:24 238:4 | 240:8 |
| 102:6 106:17 | 207:25 237:18 | 248:19 249:2,3,4,5 | expert's 70:18 |
| 110:19,23 111:24 | examiners 10:4 | 249:8 250:14 254:7 | expertise 18:3 |
| 113:2 114:23 | 12:21 | 254:9,11,13,15,19 | experts 15:15 |
| 115:18 116:7 120:2 | example 23:20 35:2 | exhibits 5:12 249:10 | 100:23 103:8 |
| 120:19,20 122:12 | 64:22 67:16 133:20 | 250:2 254:6 | 142:24 156:24 |
| 122:14,15,18,25 | 166:9 191:24 215:7 | exist 16:23 78:13 | 196:17 209:18,19 |
| 123:23 124:12 | 226:13 239:4 240:4 | 101:2 104:4,6 | 223:23 228:8 229:6 |
| 129:15,18,23 | 240:20 241:4,9 | 117:13 142:13 | 232:13 237:3,6,14 |
| 130:10,13 131:19 | 242:4,20,25 244:7 | 204:10 | 254:17 |
| 132:15 135:24 | 244:24 247:3,4 | existed 46:12 72:14 | expires 255:25 |
| 136:8 139:22 | 251:8 | 72:20,23 75:8 77:21 | explain 198:19 |
| 140:12,15,16,19 | examples 177:5 | 101:3 186:9 200:6 | explained 114:19 |
| 142:19 143:12 | 220:19 239:6 240:2 | 200:13 204:9 | explanation 47:15 |
| 144:21 146:5,10,22 | 241:2,21,21 243:13 | existence 14:21 17:6 | 47:19 70:6 72:16 |
| 148:14,15 149:3,4 | 243:19,20 245:25 | 74:18 81:20 217:20 | 111:9 131:22 133:9 |
| 150:4,12,14 151:21 | 246:15 | 242:17 | 135:17,25 155:11 |
| 153:13,14 154:19 | exceedingly 115:10 | existing 54:5 120:4 | 155:15 161:2 162:7 |
| 154:21,22,24,25 | 161:23 | 123:12 214:24 | 176:14 |
| 155:2,5,10 156:16 | excerpt 238:5 | exists 16:20 | explanations 47:12 |
| 159:22 163:8 | exchange 158:11 | expect 167:12,13,17 | 131:23 133:13,14 |
| 164:14 167:3 | exchanged 135:14 | 167:22 170:16,18 | 155:9 176:20 |
| 190:18,25 191:8,11 | 164:10,12,22 177:9 | 170:21 214:4 | express 115:25 |
| 191:13,20,23 | exchanges 162:20 | 215:13 | 116:8,14,18,19 |
| 192:11 199:21,21 | 178:23 225:23 | expedited 33:23 | 117:16,17,24 118:2 |
| 199:23 207:19 | excluded 44:18 | 35:16,21,25 36:4,5 | 118:3,6,15,25 195:7 |
| 212:9 213:6,8,12,17 | exclusively 221:3 | 36:13,16 42:24 43:8 | 195:18 |
| 217:7,15,19,21 | 227:11,14 | 80:18 81:5,10 | extent 25:23 78:3,18 |
| 218:2 220:13 221:2 | excuse 126:23,25 | 183:18,21 185:12 | 80:15 81:10 167:10 |
| 221:7,9,13,23 222:7 | exercise 11:14 | 188:2 236:9,10,13 | 202:25 203:2 |
| 224:6 225:12 228:7 | exhibit 5:6 6:2 8:5 | experience 69:11 | 215:23 235:13 |
| 231:6,13 232:2,3,4 | 9:3,16 10:20 14:18 | 94:2 172:6,8 214:5 | 239:21 |
| 232:6 237:13 | 17:10,23 19:12 | 248:2 | external 100:6,7 |
| 239:12 246:18 | 20:13 27:24 29:8,14 | experiment 214:7 | 101:17 116:20 |
| 247:15,19 254:16 | 29:17 30:15 40:6,18 | expert 16:24 19:18 | extra 49:2 50:16 |
| exact 10:5 33:4,9 | 58:6 82:16 84:11 | 19:20 22:4,16,17,19 | 51:5 |
| 97:13 189:23 | 87:6,7,14,17,20,23 | 22:22 26:21 34:25 | |

[extremely - five]

| extremely 177:25 | fair 7:22,24 16:12 | field 219:3 236:25 | 203:11,20,23 204:2 |
|-----------------------------|---------------------------|---------------------------|-----------------------------------------|
| eye 23:20,24 24:6 | 16:18 20:11 24:23 | file 5:19 19:24 20:17 | 204:3,4,5,8,8,10,12 |
| | 40:25 41:2 42:2 | 66:15 75:23 76:4 | 204:13,22 205:17 |
| f | 50:4,11,14,19 58:5 | 77:21 86:10 89:10 | 204.13,22 203.17 206:25 207:6,6,8,17 |
| f 93:9 194:2 249:2,4 | 58:10 59:22 61:7,22 | 91:13 92:4,19,20 | 218:10,11 219:14 |
| 253:2 | , | | , |
| face 227:3 | 73:7 87:19 100:22 | 93:2,17 94:3,14,15 | 220:6 222:3,17 |
| facebook 1:9 15:25 | 101:3 107:14 124:8 | 96:6 101:21 102:14 | 229:11 240:11 |
| 18:16 53:20 106:9 | 140:8 181:17 208:8 | 132:3 134:20 135:7 | filing 29:5 200:14 |
| 120:18 121:23,24 | 220:6 237:7 | 135:10,14 139:9 | final 98:5 216:18 |
| 122:2,6,10,17 | fairly 144:7 152:3,4 | 195:14,14,18,22,24 | finally 250:18 |
| 123:15 141:23 | 153:14 196:13 | 195:25 196:5,6,19 | financial 145:23 |
| 142:2,10 145:21,24 | 223:20 226:17 | 196:23 197:2,8 | find 20:18 27:11 |
| 189:5 231:9,18,21 | fake 141:3,5 144:13 | 198:2,5,6,7,20 | 75:22 78:7 92:24 |
| 231:24 | 146:5,16 149:5 | 199:7,9,10,11,12,14 | 93:3 95:19 116:7 |
| facebook's 142:4 | 191:12,18 192:13 | 199:20 201:9,14,14 | 130:7,10,14 137:24 |
| faced 227:2 | faked 146:17 | 201:17,18,19,21,22 | 183:19 186:11 |
| facility 38:14 | fakes 165:16 | 201:25 202:2,6,11 | 188:25 190:24 |
| fact 20:3 28:22 51:6 | false 141:12 142:11 | 203:5,10,15,18,21 | 192:2,3,7 194:24 |
| 62:19 63:15 65:18 | familiar 23:21 52:13 | 203:22,25 204:6,7 | 195:3 196:7 217:8 |
| 66:11 78:2 84:14 | 52:17,20 64:23,24 | 204:14,15,19,20,20 | 221:6,8,15,23 231:6 |
| 91:17 92:11,12,15 | 119:14 139:8 | 205:5,14,19,22 | 231:13,25 232:6 |
| 97:23 98:9,10,21 | 177:11 209:8 | 206:7,8,11,16,17,23 | 233:24 240:15 |
| | familiarity 3:19 | 219:25 221:20 | fine 55:17 85:3 |
| 107:21 108:4,21 | far 4:13 118:11 | 222:21,23 227:7 | 93:15 |
| 109:18 111:7,9 | 163:24 220:23 | 229:8 232:11,14 | finish 126:24 127:5 |
| 113:5 120:21 | 224:13 | 239:18 254:14 | 127:25 128:2 |
| 122:21 123:13 | farfetched 245:16 | file's 102:11 | 160:18 |
| 131:3,11 135:8 | farther 158:3 | filed 5:17,25 8:7 | firm 70:14 83:10 |
| 136:2 144:21 | fashion 49:17 | 29:11,18,25 30:14 | 215:11 216:16 |
| 146:11 149:11,18 | father 109:8,21 | 87:11,13,18 91:5,10 | 245:10 |
| 149:21,24 152:2 | 110:12 | 108:25 137:22 | first 21:17,21 27:23 |
| 154:21,22 156:18 | father's 108:25 | 190:10 200:25 | 28:10,11 38:2 40:22 |
| 156:19 159:15 | faulkner 53:11 | 205:8 | 45:18 60:8,10,23 |
| 161:7 162:9 165:20 | faulty 77:25 | files 22:21 24:25 | 76:2 91:18 92:16 |
| 169:14 176:3,19 | february 42:20 | 25:17 57:6,7 68:11 | 93:14,22 95:9,12 |
| 196:6,11 207:10 | 45:12 222:11 | 90:6 96:18,23 97:12 | 96:4,7,9 97:16 |
| 226:11 239:9 | federal 3:20,21 | 104:16 111:7 | 98:24,25 100:14 |
| 241:13,13,15 | fee 214:13,18 215:4 | 116:22 134:2,6 | 107:20 126:15 |
| 243:21 | 215:8,9,20,21 | 145:6,8 195:13,16 | 134:23 186:20 |
| factor 14:16 98:19 | feed 95:14,15 | 195:20 196:5,6,18 | 205:13,13 224:6 |
| 146:13 | feeding 95:24 | 197:4,10,11,20,20 | 205:13,13 224.0 |
| factors 100:6 | feel 11:19 153:2 | 197:21,23,24 | fit 138:9 |
| facts 97:5,8 135:18 | 171:13 237:16,20 | 197.21,23,24 | five 77:15 78:2,11 |
| 242:12 | feet 151:11 | 198:13,16,18,25 | 78:12 205:4 234:14 |
| | | | |
| | | 201:12 202:7 203:6 | 254:13 |

| fixed 24:5 | 84:16 113:8 115:23 | formula 232:12 | 167:3 175:12,17,19 |
|-----------------------------|-----------------------------|----------------------------|--------------------------|
| flip 205:25 241:22 | 139:22 140:16 | formulates 169:10 | 175:19 176:3,8 |
| flopping 241:22 | 143:2,19 146:15,19 | forth 62:23 159:9 | 179:12,18 182:8,10 |
| floppy 25:4 66:22 | 146:20 147:11 | 163:3,6,15 170:24 | 207:19,20,25,25 |
| 221:11,13,21,22,25 | 148:14,15,21 | 216:17 225:9,14 | 216:24 217:7,15,21 |
| 222:5,6 227:12 | 155:15 156:16 | 242:2 253:11 | 218:3 236:23 237:8 |
| 233:17 | 159:20 182:2 | forward 94:6 | 237:10,17,17,18 |
| florida 115:13 | 190:24 209:14 | forwarded 98:13 | 241:17 242:10,11 |
| flowed 210:25 | 235:7 236:25 237:3 | 160:4 | 242:21,24 243:7,16 |
| focus 35:20 | 237:5,13 238:2 | found 19:9 21:9,12 | 243:17,25 244:3,6 |
| focused 36:22 | 240:8 254:21 | 24:15,16 26:25 | 244:13 245:3,9,12 |
| 183:21 227:15 | forge 131:12 | 28:19,21 34:12,14 | 245:19,21 247:20 |
| folder 76:16 79:15 | forged 140:25 | 34:17,18,19,20 | 248:4 |
| folks 12:13 21:3 | forgery 214:6 | 58:15 61:21 67:11 | fraudulent 51:12 |
| following 3:24 97:22 | forgetting 175:20,20 | 67:17 71:3,5,9,14 | 115:2 132:9,12,17 |
| follows 6:7 194:19 | forgive 151:14 | 72:9,13 73:20 75:6 | 146:11 155:14 |
| footnote 58:18,23 | form 15:2 17:25 | 75:25 79:14 86:2 | 166:14 214:6 |
| 59:2 | 18:21 21:15 31:7 | 88:25 89:22,23 | 244:23 247:25 |
| forensic 10:3 12:21 | 44:10,22 47:17 | 95:22 101:19 107:4 | frequently 114:2 |
| 22:17 25:24 26:4,21 | 56:15 58:2 73:22 | 107:11 108:24 | friday 156:7 |
| 37:20,25,25 38:10 | 76:18 86:8 105:9 | 120:19 121:16 | friedberg 3:9 6:2 |
| 41:12 44:7 45:7 | 113:20 115:20 | 122:12 130:13,18 | 8:14 9:17,24 10:9 |
| 52:8 56:21 59:9,13 | 145:18 153:7 | 138:3,11 146:15 | 10:13 12:15,16,24 |
| 62:10,15 63:7,11,12 | 207:11 212:2 217:9 | 149:12 150:24 | 13:3,14,24 14:4 |
| 63:16,17 65:14 77:5 | 231:11,19 237:19 | 151:5 183:7 189:3 | 22:9 37:23 39:7 |
| 77:8 78:7 80:14,19 | 249:21 250:5 | 190:19 191:8 | 40:14,23 43:14 |
| 80:20 93:4 107:12 | formal 40:5 200:2 | 194:24 195:6,6,8,23 | 48:17 49:14,18,19 |
| 107:25 108:4,8,9,14 | 240:9 | 197:20 221:20,21 | 49:24 50:4,6,12,15 |
| 108:17 110:19 | format 19:25 20:3 | 227:19 232:2 | 50:20,24 51:9,18 |
| 111:2,24 112:20 | 55:2,3 81:19 168:12 | four 12:6 31:4 64:5 | 56:13 83:13 88:23 |
| 131:17 133:5 135:9 | 168:23 169:10 | 94:4 163:9 234:24 | 91:8 137:12,14,20 |
| 140:12,15,19 | 171:7 179:24 180:4 | fourth 89:13,15 | 170:8 173:2 187:9 |
| 144:21 150:9 | 180:14 | fragile 239:19,23 | 187:20,25 214:9,17 |
| 154:19 155:10 | formats 56:24 139:9 | 241:15 | 215:3 228:18 230:5 |
| 156:24 165:9 182:5 | formatting 47:24 | frame 172:2 | 234:10 254:7 |
| 189:12 190:13 | 48:9,12,18,23 49:5 | frankly 70:5 130:16 | friedberg's 8:8 |
| 191:8,20,23 196:16 | 49:10,18,20,25 50:3 | 132:14 150:6 216:3 | 81:13 |
| 208:7 212:9 227:18 | 50:13,21 51:20 | 227:2 | front 65:8 120:23 |
| 227:24,25 228:8 | 54:17 55:20 56:2,12 | fraud 18:8 48:18 | 129:21 156:21 |
| 231:6 237:14 | 56:17,18,24 57:4,7 | 49:9 50:4,12,21 | 179:2 |
| 254:17 | 57:13,24 139:15 | 51:10,18,25 56:4,8 | full 85:12 89:15 |
| forensics 18:4,5 | 166:8,23 167:2,8,12 | 56:10 59:10,14 | 198:8 209:3 228:24 |
| 19:9 24:18 40:25 | 173:8,22 176:6,10 | 142:20 144:22 | 228:25 229:20 |
| 41:4,9 57:3 62:16 | 176:15 213:10 | 146:8,22 147:3 | 235:4 238:13 |
| 65:22 69:12 77:9 | | 153:14 155:13 | |

[function - happy]

| function 68:7,10 | 213:18 | 241:25 246:11,12 | guys 216:25 223:25 |
|-------------------------|---------------------------|--------------------------------|------------------------------|
| 96:13 118:18 139:5 | geographically | 250:6 | h |
| 169:5 | 83:17 | goes 185:11 | h 2:15,16 27:24 |
| functions 69:23 | getting 39:20 | going 7:19 14:25 | , |
| further 213:17 | getzuck 119:14 | 27:10,14,15 46:7 | 228:8,12 249:3,5 254:17 |
| 252:8 253:15 | 121:3 126:20 128:7 | 78:19 83:5 94:5 | habits 161:12 |
| future 4:21 | 128:9 | 127:10,12 131:6 | hacker 104:25 106:3 |
| g | gibson 1:18 2:11 | 132:23 134:23,24 | 106:22 107:2 |
| g 93:9 | 51:8 53:10 118:7,20 | 134:25 136:20 | hackers 73:4 103:16 |
| gain 69:4 73:5 | 118:23 123:10 | 137:16 145:3 146:8 | 103:18,20,21 104:5 |
| gathering 224:6 | 183:4,11,14 187:13 | 156:3 163:15 167:9 | 103:10,20,21 104:5 |
| general 30:9 41:7,20 | 215:10 224:21 | 172:3 180:19,23 | hacking 69:8 105:8 |
| 55:22 57:16 66:9,15 | 225:18 | 192:24 194:9 | 105:21,23 106:6,10 |
| 72:8 73:4 105:3 | gif 19:25 | 200:15 206:18 | 105.21,25 100.0,10 |
| 106:4 112:15 116:5 | give 20:2 97:13 | 210:18 219:25 | half 58:25 61:17 |
| 106:4 112:15 116:5 | 131:8 134:3 135:12 | 222:7 224:19 | 141:23 142:2 |
| , | 145:24 175:22 | 240:19 | 141:23 142:2 145:24 194:7 |
| 174:17 185:4 | 224:17 234:25 | good 6:10,11 8:3 | |
| 196:17,23 214:11 | 235:4,18,23 239:3 | 209:20 235:22 | hand 10:17 84:19 |
| 214:12 218:7 | 240:19 241:9 244:7 | gotomeeting 67:20 | 91:22 208:24 |
| 224:24 243:11 | 252:4,6 | 68:4 | 223:19 228:23 |
| generally 8:24 58:10 | given 39:15 50:23 | gotomypc 64:22 | 253:21 |
| 69:9 71:14 73:13 | 51:11,24 62:19 | 65:3,16 67:16 68:4 | handed 8:4 28:24 |
| 75:11 94:7 116:17 | 65:17 111:7 130:16 | 68:6,9,17 | 30:11 88:20 248:23 |
| 130:17 133:17 | 133:14 144:21 | gotten 94:20,23 | handle 172:17 |
| 153:4 161:21 | 155:10 161:7 | 182:23 184:12 | handwriting 156:15 |
| 163:21 167:19 | 179:20 183:12 | government 209:19 | 156:23,24 |
| 177:11 178:16 | 185:22 187:11 | grab 91:19 | handwritten 63:24 |
| 181:19 198:22 | 196:11 218:2 | grant 9:13 227:9 | 64:3 150:3 154:23 |
| 204:22 209:15 | 250:13 253:13 | 233:20,25 | 156:17 |
| 210:2 211:16 214:3 | giving 5:14 156:20 | graphic 27:12 76:15 | handy 48:5 |
| 214:23 215:13 | 228:10 241:4 | greater 111:21 | happen 94:24 119:8 |
| 218:18 224:12 | go 7:3 27:10,14 | greatest 141:5,13 | 134:14,16 135:13 |
| 229:12,24 238:15 | 42:11 48:7 60:15 | greatly 44:2 | 216:3 244:6 251:16 |
| 248:3 | 67:21 82:9 83:16 | group 165:24 | happened 40:11 |
| generate 85:25 | 84:18,24 85:2 91:21 | groups 202:19 | 58:3 65:16 125:14 |
| 155:13 | 93:10 118:14 | guess 75:9,13 119:3 | 134:9 135:20 |
| generated 212:10 | 119:19 130:22 | 145:19 151:20 | 151:13 155:4 187:3 |
| generates 220:23 | 134:22 136:23 | 145.19 151.20 | 187:7 231:3 241:24 |
| 246:7 | 134:22 136:23 | 202:25 204:16 | happening 95:21 |
| generating 213:3 | 155:18 157:16 | 202.23 204.10 | 191:24 |
| generically 84:2 | 158:3 159:9 165:16 | guessing 193:15 | happens 246:6 |
| genuine 14:24 17:10 | 183:14 193:6,16,18 | guidelines 209:14 | 251:14 |
| 17:24 18:6,20 115:6 | 201:11 207:3 214:7 | guidennes 209:14 gun 150:14 | happy 127:20 |
| 144:24 150:5 | | guii 150:14 | |
| | 216:16 230:13 | | |

| 25:11,12,18,20,22130:17,19,19 131:7193:14 194:13233:26:7,14 32:18 65:19131:12,21 132:2,10hourly 9:18 223:4,5ignore66:2,8,11,16 67:2132:18,22 133:10hours 193:2 194:7illegib67:10,24 93:22135:11,15,18 136:2223:8,14 235:24image94:15,19,21,23,25139:19,23 140:6,18house 114:620:295:7,9 96:10,12142:18 147:8html 139:1022:499:20 107:11,13,18hey 151:17 153:22hundred 236:2024:6107:21,25 108:2,4,9185:7 246:16hundreds 74:564:2108:13,18 111:8high 115:10 224:18hypothetical 17:1488:11 | fying 220:25 11 e 217:16 le 249:15 19:18,22 20:3 3,23 21:4,7 ,16,18,21,22 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 ,9 92:12 94:9 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26:7,14 32:18 65:19131:12,21 132:2,10hourly 9:18 223:4,5ignore66:2,8,11,16 67:2132:18,22 133:10hours 193:2 194:7illegib67:10,24 93:22135:11,15,18 136:2223:8,14 235:24image94:15,19,21,23,25139:19,23 140:6,18house 114:620:295:7,9 96:10,12142:18 147:8html 139:1022:499:20 107:11,13,18hey 151:17 153:22hundred 236:2024:6107:21,25 108:2,4,9185:7 246:16hundreds 74:564:2108:13,18 111:8high 115:10 224:18hypothetical 17:1488:11 | e 217:16 le 249:15 19:18,22 20:3 3,23 21:4,7 ,16,18,21,22 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 |
| 66:2,8,11,16 67:2 67:10,24 93:22132:18,22 133:10 135:11,15,18 136:2hours193:2 194:7 223:8,14 235:24illegib image94:15,19,21,23,25 95:7,9 96:10,12139:19,23 140:6,18 142:18 147:8house114:6 20:220:2 22:499:20 107:11,13,18 107:21,25 108:2,4,9 108:13,18 111:8hey151:17 153:22 185:7 246:16hundreds74:5 64:264:2 hypothetical17:1488:11 | le 249:15 19:18,22 20:3 3,23 21:4,7 ,16,18,21,22 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 |
| 67:10,24 93:22135:11,15,18 136:2223:8,14 235:24image94:15,19,21,23,25139:19,23 140:6,18house 114:620:295:7,9 96:10,12142:18 147:8html 139:1022:499:20 107:11,13,18hey 151:17 153:22hundred 236:2024:6107:21,25 108:2,4,9185:7 246:16hundreds 74:564:2108:13,18 111:8high 115:10 224:18hypothetical 17:1488:11 | 19:18,22 20:3 3,23 21:4,7 ,16,18,21,22 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 |
| 94:15,19,21,23,25139:19,23 140:6,18house114:620:295:7,9 96:10,12142:18 147:8html139:1022:499:20 107:11,13,18hey151:17 153:22hundred236:2024:6107:21,25 108:2,4,9185:7 246:16hundreds74:564:2108:13,18 111:8high115:10 224:18hypothetical17:1488:1 | 3,23 21:4,7 ,16,18,21,22 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 |
| 95:7,9 96:10,12142:18 147:8html 139:1022:499:20 107:11,13,18hey 151:17 153:22hundred 236:2024:6107:21,25 108:2,4,9185:7 246:16hundreds 74:564:2108:13,18 111:8high 115:10 224:18hypothetical 17:1488:11 | ,16,18,21,22 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 |
| 99:20 107:11,13,18 107:21,25 108:2,4,9hey151:17 153:22 185:7 246:16 hundredshundred236:20 24:6 64:2 hypothetical24:6 17:14108:13,18 111:8high115:10 224:18hundreds74:5 48:11 | 37:25 44:7 87:21 88:13,15 7,19 90:12 91:3 |
| 107:21,25 108:2,4,9185:7 246:16hundreds74:564:2108:13,18 111:8high115:10 224:18hypothetical17:1488:14 | 87:21 88:13,15 7,19 90:12 91:3 |
| 108:13,18 111:8 high 115:10 224:18 hypothetical 17:14 88:1 | 7,19 90:12 91:3 |
| | · |
| | 992.1294.9 |
| | , |
| | 0 96:23 107:25 |
| | 3 151:10 152:3 |
| | 11 153:17 |
| | 18,19,21,23,23 |
| 42:25 44:4,14,25 164:6,6 189:9,24 144:11,16 150:22 249: | |
| | s 19:20 20:9 |
| | 3,19 21:8,9,18 |
| | 3 23:2,4,16,25 |
| 81:8,16 124:15 242:18 247:17 207:4 245:16 24:1 | 2 26:25 27:4,7 |
| 126:7 147:21 hired 106:14 hypothetically 27:12 | 2 30:13 38:11 |
| 182:15,20,22,22 hiring 216:16 64:19 73:12 94:25 52:8 | ,11 62:8 65:25 |
| 183:10 184:11 historical 45:5,15 99:15 110:11 66:7 | 67:10,17 68:13 |
| 186:2,14 188:2,25 46:17,22 53:6 54:5 114:11 144:19 85:1 | 5 86:2,13,22 |
| 232:18 78:16,22 79:11 174:23 245:10 87:2 | ,5 88:24 89:5 |
| harvard's 43:16 81:25 182:23 186:9 hypotheticals 89:22 | 2 90:9 91:12 |
| head 144:8 historically 32:20 100:18,23 102:4 97:7 | 99:10 101:5 |
| headed 205:5 33:6 46:22 83:9 i 102: | 18,22 106:19 |
| 254:14 137:10 idea 51:4,9,10 135:5 108: | 24 147:25 |
| header 58:12,16 history 192:7,11 171:13 148: | 2,16,20,21 |
| 210:8 hit 23:11 99:2 111:4 identical 49:4 149: | 11 150:2 153:3 |
| headers 97:21 211:2 hm 121:21 198:12 150:18 203:15 153: | 5,6 159:24 |
| headings 30:9 200:8 209:6 229:3 206:16 160: | 2,6,7,10,21 |
| hear 180:24,25 hold 5:10 48:3 identification 6:4 161: | 8,14,17,23 |
| 181:2 250:23 holds 146:25 Identification 0.4 82:17 200:23 205:6 162: | 5,6,8,10 190:9 |
| heard 251:12 hope 248:14 228:9 238:3 194: | 23 195:7 232:8 |
| held 1:18 hopefully 194:15 identified 17:10,23 232: | 10 249:19 |
| help 99:8 190:23 hotmail 166:18 123:11 165:9 207:8 | ne 49:9 |
| helpful 238:19 167:11 168:2,8 243:5 imagin | ng 232:13 |
| helping 43:7 169:5,10,14,21,25 identifies 61:21 immed | diately 10:17 |
| helps 251:9 170:9,18,22 171:9 identify 8:6 11:25 97:22 | 2 112:3 157:22 |
| hereinbefore 253:11 171:14 172:9,11 20:12 45:4,15 195: | 9 |
| 1 horounto (253.20) = 173.12 14 174.20 impo | t 115:21 |
| heritate 210:11 175:2 211:14,16,22 181:15 183:8 189:23 225:15 145:2 | |
| 212:15 | |

| impacted 102:8 | incorrectly 58:24 | informed 21:22 | internet 25:15 58:16 |
|-----------------------------|----------------------------|-----------------------------|-----------------------------|
| implausible 70:6 | 175:8 | inherently 222:15 | 67:4 97:21 123:12 |
| 138:25 171:18,20 | independent 97:25 | initial 97:15,20 | 139:5,9,13,16 168:7 |
| 171:21,24 172:4 | 98:7,16 | 148:23 | 192:11 198:22 |
| implying 88:3,6 | indiana 114:2 | initially 202:18 | 199:5 210:25 |
| important 41:8,11 | 230:13 | initiated 218:21 | 211:15 |
| 210:6 | indicate 50:4 65:14 | 238:18 | interpret 247:22 |
| impossible 149:2 | 70:9 98:8 166:7,13 | ink 249:11 | interpretation 228:2 |
| inaccuracy 226:16 | 198:24 201:7 | innumerable 69:4 | 229:6 242:9 |
| inauthenticity 34:6 | indicated 7:4 45:13 | inquiries 226:11 | interpreted 239:24 |
| 36:10,14,18,23 | 47:21 83:10 92:25 | insert 49:20 50:7,16 | interrupt 93:9 |
| 138:8 225:13 | 105:22 146:16 | 167:14 | interspersed 133:7 |
| inbox 116:22 117:8 | 178:13 | inserted 51:5 138:4 | intervening 162:11 |
| 117:8 118:16 | indicates 123:17 | 221:24 | interview 80:16 |
| inch 90:2 | 124:8 135:10 | inserting 49:18 | introduced 56:25 |
| inches 85:21 86:6 | 156:22 191:9,11 | insertion 56:2,6 | 166:24 176:15 |
| 90:6 | 197:11 200:6 | inside 144:8 | intrude 104:12,15 |
| include 52:8 181:12 | 202:23 241:6 | inspection 225:7 | intrusion 73:6,11 |
| 181:12,13 197:19 | indicating 159:25 | installation 69:18 | 106:23 |
| 201:23 | indication 179:18 | installed 69:10,24 | inventory 33:11,13 |
| included 12:5,6 36:2 | 216:24 | 130:12,15 | 33:16 |
| 42:19 81:9 122:22 | indications 176:8,11 | instance 48:24 49:2 | investigation 112:17 |
| 125:6 163:16 | 216:2 | 63:14 67:20,22 | 210:7 |
| 180:10,17 181:5 | individual 147:8 | 72:11 75:17 132:5,7 | investigations |
| 186:12,24,25 | 154:17 180:9,15 | 140:22 166:17,25 | 185:23 |
| 189:25 210:17 | 242:25 247:6,20 | 167:14 210:25 | investigator 12:2 |
| 231:18 | individually 1:9 | 218:15 220:21 | invoices 10:18 |
| includes 90:12 | individuals 13:25 | 222:9 239:6 241:22 | 223:18 |
| 129:19 201:15 | 31:19 69:12 125:8 | 245:25 247:20 | involved 10:10 11:6 |
| including 22:21 | 219:2 | institutions 43:23 | 11:10 12:16 31:4 |
| 65:10 98:4 131:4,5 | industry 21:4 | instruct 127:19 | 43:6 52:4,11 53:19 |
| 135:10 138:13 | inference 160:14 | instructed 224:10 | 105:7,20,23 136:13 |
| 149:4 159:15 235:6 | inform 241:3 | 224:12 | 183:9 184:10,13 |
| 239:20 | information 8:15 | instructions 224:5 | 235:15 236:12 |
| inconsistencies | 35:18 58:12,16 77:9 | intent 56:9 | involvement 37:12 |
| 48:24 166:15 167:4 | 89:6 90:18 106:7 | intentional 134:8 | involves 56:8 185:12 |
| 167:9 240:3 | 129:21 151:6 | intentionally 49:17 | involving 52:14,18 |
| inconsistency | 169:18 170:12 | 49:24 | 53:13 |
| 239:12 | 171:10 182:19 | interested 182:8 | ip 113:3 |
| inconsistent 167:7 | 199:2 209:15 | 253:18 | irrelevant 183:15 |
| 222:15 | 211:22 220:10 | intermediary 59:7 | isolate 154:16,16 |
| inconsistently 172:4 | 227:25 228:3 234:2 | 98:5 149:15 177:3 | issue 28:25 37:7 |
| incorrect 165:20 | 234:9,11 250:24 | 244:10,17 245:15 | 49:6 54:16 55:12 |
| 239:5 244:11 | 251:2 | internal 245:9,10 | 92:6 177:11 213:15 |
| | | | 227:16 232:7 |

[issued - lawyer]

Page 20

| issued 31:20 32:5 | jury 17:17 | 102:10 103:11,25 | 232:9 233:15 234:7 |
|------------------------------------------------------|--------------------------------------------|---------------------|-------------------------------------------|
| 225:8,20 240:7 | justice 209:5,13 | 111:10 112:5,7,8,10 | 235:4,24,24 236:11 |
| issues 41:14 48:13 | k | 112:14 114:18 | 237:4 240:12 |
| 48:23 213:10 | kasowitz 177:10 | 116:10,10,12,13 | 241:25 242:2 |
| issuing 14:5 30:19 | 179:22 | 117:20,24 119:5 | 243:11 246:2,9,13 |
| 31:5 33:7 40:18 | keep 126:25 251:9 | 120:16 122:2,5,7,8 | 249:11,12 250:10 |
| item 60:2 95:12 | keep 120.23 231.9 kept 35:11 | 122:9,20,21 123:12 | 250:13 251:6,7,11 |
| 177:14,18 178:9 | keyboard 111:4 | 123:18,19,20 124:2 | 251:16,18,23 |
| 181:6 | keys 111:4 | 127:17 128:23,24 | knowing 81:24 |
| items 59:18 75:22 | keys 111.4 kilobytes 90:6,7 | 128:25 129:2,22 | knowledge 208:5 |
| 76:4,16 77:16 78:8 | · · | 130:21 131:4,11,16 | 209:12 240:8 |
| 79:9,9,14,14 117:2 | kind 69:18,21 72:15 | 131:22,25 133:8,12 | kole 59:19 60:3 |
| 117:3,21 177:15,20 | 72:24 104:2,4 117:4 147:3 172:22 241:7 | 133:21,23,24 | 61:20 62:25 63:19 |
| 181:7 202:14 | | 135:22 136:5,14,20 | 73:20 85:15 90:9 |
| 213:21 | 242:4 243:12 kinds 71:21 72:3 | 137:11,17 138:6,6 | 91:12 98:13 102:18 |
| j | kinds 71:21 72:3 | 138:12,23 141:10 | 109:10 138:14 |
| | know 4:67:89:19 | 141:15,17 142:18 | 150:2,25 152:9 |
| j 1:17 6:5 194:18 | 10:8,13 11:14 18:8 | 144:23 145:20,21 | 154:22,23 155:23 |
| 252:16 253:10 | 19:11 21:24 22:6,7 | 146:10,12 147:6,9 | 156:6,9,11,19 157:8 |
| 254:4 255:6,21 | 22:15,25 24:17 | 147:13 148:5,9,18 | 158:12,17,22 159:4 |
| january 120:5 | 25:25 26:18,19 27:3 | 152:4,8,12,15 | 159:4,8 160:22 |
| 122:22 123:17,21 | 29:9,19 30:23 31:2 | 153:16 156:25 | 162:12,15,17,19,20 |
| 123:25 127:8 | 31:18 32:25 33:4,9 | 159:6,17,19 160:2,3 | 163:3 190:9 |
| 128:15 129:2,11,19 | 34:8,22 35:10,12 | 160:4,7,14 161:8,10 | kole's 156:22 |
| jason 10:2 12:20 13:8 | 37:11,17,21 38:5,8 | 161:11 162:5,6 | 1 |
| | 38:9,21,22,24,25 | 163:2,5,7,10,18 | l 228:12 |
| jerry 227:8 233:20 jim 62:25 150:25 | 39:6,11 40:9,14 41:13,15,16,17,22 | 166:17,20,22 169:4 | l 228:12 labor 11:11,20 |
| 151:17 152:9 | 43:4,11 44:4,21,23 | 169:8 170:2,11,12 | lacking 72:11 |
| 154:22,23 155:22 | 45:4,11 44:4,21,25 46:3,15,17,18,23 | 170:22 171:3 | lake 108:19 |
| 156:6,19 160:22 | 48:5 49:12 51:19 | 172:10,25 173:5,23 | lakewood 2:8 |
| · · · | | 174:19 175:2,21 | |
| 190:9 | 52:21 53:2,15 54:6 | 178:5,22 180:5 | landed 24:14 26:7 |
| jobs 94:5 | 58:4 61:24 62:3,4,6 | 181:12 184:10 | 26:13 74:15 |
| jog 177:7 | 63:14 67:12,13,19 68:2 6 60:2 3 12 17 | 185:15 187:5,10 | language 3:23 48:15 131:9 189:6 |
| jpeg 19:25 jr 2:16 | 68:2,6 69:2,3,12,17 69:19 71:19,20 72:2 | 192:10,12 193:3,5 | laptop 197:10,21 |
| v | 72:11 73:18,25 74:4 | 194:6 196:23 197:3 | 198:10 |
| judge 6:24 7:4 127:18 | , | 199:2,22 200:3,15 | large 43:20,23 |
| | 74:6,14,17,20 75:11 75:15,16,16,20 | 203:5,10,16 204:25 | U , |
| july 1:14 15:15,20 | | 206:20 207:16 | 248:20 249:9 larger 28:23 240:24 |
| 107:22,24 236:14 253:21 255:5 | 78:13 80:15,21 81:3 | 208:16,17 209:16 | larger 28:23 249:24 250:7,9,15 |
| | 81:8,16 83:15,19,21 83:24 84:6,9 86:21 | 210:14 211:10 | |
| june 124:20 125:8 | · · · · · · · · · · · · · · · · · · · | 212:22 213:5 219:8 | law 215:11 245:10 |
| 125:25 126:3,8,14 187:17 188:19 | 89:2 91:7 93:3,21 | 220:2,8 221:9,12 | lawyer 150:16 |
| 1 10/11/10019 | 96:16 99:25 100:3,5 | | 152:16 161:14 |
| | 100:22 101:8 102:6 | 223:7 226:20 | |

[lawyers - mail]

| lawyers 7:8,14 | 205:17 206:17,25 | long 22:8,13 43:25 | m |
|-----------------------------|----------------------------|-------------------------|-----------------------------------------|
| 178:19,23 179:11 | 207:6 | 177:25 178:12,14 | |
| 179:18 182:18 | linked 204:2 | longer 24:6 128:16 | machine 65:21 |
| 200:16 224:21 | links 197:10 | look 8:4 10:18 27:14 | 73:17 133:7 211:4 |
| 225:2 230:18,23 | list 31:21 32:6,9 | 34:5 49:2 58:6 | magnified 249:17 |
| lead 152:5,6,8,10 | 35:7 68:21,22,23 | 60:13 62:18 76:9 | 250:2,15 |
| 191:13 | 71:24 74:10 77:15 | 81:8 84:10 85:7 | magnify 91:9,9 |
| leading 236:6 | 97:8 133:20 139:21 | 87:11,25 90:8 92:11 | mail 32:12 40:5 42:2 |
| leads 131:10 | 197:16 202:17,18 | 98:22,24 99:25 | 42:5,14,15,25 43:16 |
| leaf 27:16 | 235:5,19 | 101:8 106:17 | 43:21,22 44:5,8,12 |
| learn 105:7,20 | listed 8:16,19 30:20 | 109:13 120:22 | 44:14,18 45:5,11,15 |
| 203:14 | 31:5 39:17 203:3 | 138:7 149:10 | 45:20 46:8,12,17 |
| leave 73:6,10 82:5 | 205:19 232:15 | 164:18,23 175:24 | 47:8 49:7,20 50:7,9 |
| 106:23 107:2 | lists 202:21 | 188:6 192:20 | 50:25 55:4 56:22 |
| led 123:19 | literally 72:5 | 200:17 201:6 | 59:5,7,8,15,19,20 |
| legal 2:4 3:17 | litigation 52:10,17 | 208:23 215:7 | 60:3,17 61:10,21 63:6,15,21,22 64:10 |
| 156:20 | 53:19 190:2 | 220:14 227:14 | 64:13,18 65:10,11 |
| legible 30:2,3,11 | litigations 52:9 | 228:19 242:15,15 | 73:20 76:16,20,21 |
| 248:20 249:9,14 | littered 74:4 | 242:16,17 244:25 | 76:22,24 77:2,20 |
| 250:8 | little 15:4 22:23 | 246:2,2,3,20,22,25 | 78:8,25 79:3,10,15 |
| legitimate 212:7 | 27:21 60:5 61:7,16 | 247:3,7 | 79:19 80:4,13 81:4 |
| letter 177:10 | 62:14 99:20 103:12 | looked 37:3 87:9,17 | 81:9,14,17 85:15 |
| letters 64:5 | 139:19 158:3,4 | 88:12,20 106:21 | 90:9 91:13 97:16,20 |
| level 27:19 155:20 | 177:7 188:20 | 123:6 139:16 | 98:11,18 99:5,7,14 |
| 157:12,13,22 | 190:22 193:6,9 | 192:17 227:22 | 99:15,19,21 101:2 |
| 224:18,23 | 194:12 203:2 | looking 29:5 36:9 | 102:2,19 104:9,10 |
| lie 181:22,24 | live 46:7,8,11 | 65:20 81:19 87:12 | 109:10 111:3,6 |
| light 110:22 | livenote 84:23 | 90:22 127:23 | 112:18 114:16 |
| lightness 249:11 | llc 2:4 | 175:17 192:16 | 115:25 116:21 |
| likelihood 111:17 | llp 1:19 2:11 | 202:15 210:22,23 | 117:9,15,19 118:8,9 |
| 113:16 114:6,14,22 | located 21:20 83:25 | 210:24 211:3 220:9 | 118:20 119:14 |
| 185:18 188:9 196:4 | 112:24 | 220:10 239:16 | 121:18,22 122:6,9 |
| 203:18,23 207:8,13 | location 114:7,21 | 241:24 242:22 | 122:16,16,22,25 |
| limit 163:11 194:9 | 115:16 194:25 | 245:4 247:8 | 123:6,14,15,23,25 |
| limited 35:21 36:13 | 195:17 198:22,23 | looks 8:7 159:6 | 124:13,15,21,23,25 |
| 81:17,23 181:8 | 199:6 | loosely 22:23 | 125:4,7 126:15,20 |
| limiting 143:2 | locations 229:10 | lose 145:16,20 | 127:7 128:8,13,15 |
| line 17:15 49:3 | 230:12 | lot 117:10 145:16 | 128:20 129:3,6,12 |
| 50:17 55:10 76:11 | locked 38:13 | low 28:15 113:17 | 129:13,19,20,25 |
| 76:13 85:10 91:24 | log 177:20 180:10 | 114:6 | 138:14,18 147:21 |
| 92:14 180:22 255:7 | 180:17 220:23 | lower 163:11 | 149:19,21,25 150:9 |
| link 197:10,20 198:2 | 229:10 | luehr 228:8,13 | 150:18,24 151:8,17 |
| 198:5,13,15,18,20 | logical 120:5 146:17 | 254:18 | 151:17 152:7,18,24 |
| 199:7,10,14 201:18 | 147:12 | lunch 193:8,9,20 | 153:21,25 154:3 |
| 204:7,19,22 205:14 | | | |

| 156:6,9,19 157:4,10 | 109:21 110:18,20 | 75:16,17,19 103:13 | marked 6:3 8:5 |
|---------------------|----------------------------|---------------------|-----------------------|
| 157:12,17,17,21 | 112:25 113:13,16 | managing 228:17 | 82:17 84:10 200:22 |
| 158:17,23 159:3,8 | 113:17 114:12,15 | 230:6 | 205:5 208:18 228:9 |
| 160:11 161:3 | 114:22,24 115:5,6 | manipulate 114:25 | 238:2 |
| 162:12,15,16,17,19 | 115:12 118:17,23 | 132:3,16 133:19 | marks 135:4 |
| 163:9 168:12 | 119:18,22,24 120:4 | 140:7 145:5,8 | marriage 253:17 |
| 172:24 173:16 | 122:13,19,23 124:6 | 244:21 | massive 155:13 |
| 174:2,9,13,15,16,24 | 124:9,17 126:6,12 | manipulated 101:20 | material 225:16 |
| 175:15,17,21,22,23 | 126:21 128:7,22 | 132:25 176:12 | materials 123:8 |
| 176:3,18 178:10,11 | 129:8,17 146:23 | 212:8 226:22 245:8 | 124:4 |
| 178:23 179:22,24 | 147:20 149:4 153:4 | 246:24 | math 59:23 61:18 |
| 180:4,9,15 181:12 | 156:11 159:4,4,7 | manipulation 100:2 | mathematical |
| 182:15,20,22 | 160:20 163:2,9,12 | 101:25 102:7,11 | 232:12 |
| 183:10,18,23 184:3 | 164:10,12,14,17,21 | 115:3 142:19 149:5 | matter 41:20 55:22 |
| 184:9,19 185:2,19 | 165:7,10,16,19,23 | 191:11 212:25 | 75:14 112:15 |
| 186:3 187:11 | 165:24 166:3,9,10 | 213:6,8 241:7 242:4 | 117:12 148:23 |
| 188:21,24,25 | 166:19 169:3 175:5 | 242:8,18,19 246:14 | 168:6,9,10 235:9 |
| 189:25 190:8 | 175:14 176:21,22 | 246:16 247:13 | 253:19 |
| 191:24 192:3 210:6 | 177:4,9 178:12,17 | 248:4 | matthew 2:17 3:4 |
| 210:8,9,18,19,20,21 | 178:18 179:5,16 | manipulations | mcgowan 8:13 10:2 |
| 211:12,20 212:12 | 183:7 185:8,14 | 217:16 242:16 | 13:8,11,23 21:23 |
| 212:14,18 213:4 | 186:11,16,23 187:3 | manually 49:13 | 22:10 31:15 33:9 |
| 216:17 225:23 | 187:7,16,20 188:3 | 212:20 | 169:19,21 234:8 |
| 227:3,6 230:18,22 | 188:12,18 211:7,10 | march 6:3 8:8 148:9 | 235:7 |
| 231:16 232:5,18 | 211:14,25 212:3,7 | 148:12 149:14,24 | mcmanis 53:10 |
| 233:16 | 212:24 213:2 216:4 | 156:7,11,12 157:9 | mean 14:13 15:3,16 |
| mail's 123:18 | 216:11 217:24 | 158:7,8 159:5,7,14 | 18:25 19:23,24 |
| mailbox 78:15,22 | 225:14 226:14,23 | 159:24 174:7 | 21:12 22:18 37:5,6 |
| 186:10 195:7 | 232:21 233:2,6,11 | 187:17 188:19 | 40:4 42:22 43:17 |
| mailed 24:19 26:8 | 233:19 | 254:8 | 53:9 55:22 58:19 |
| 149:13,14,15 | main 47:12 | margin 217:16 | 67:20 68:24 69:3,16 |
| 150:15 152:15,19 | maintain 43:21,25 | 242:19 | 71:21 72:3 73:12 |
| 226:18 | 44:2 | mark 1:8 5:5 15:10 | 76:19 77:24 82:4 |
| mailing 57:7 | maintained 38:15 | 17:18 18:13 32:11 | 95:25 96:8 99:18 |
| mails 35:20 42:25 | 149:19 | 32:15 33:5 42:25 | 101:6,7 102:13 |
| 43:8 47:14,14,22,23 | majority 235:6,7,11 | 53:7 78:24 79:15 | 103:24 104:10 |
| 48:19 49:4,7 50:13 | making 88:10 | 81:3 102:17,24 | 111:16 112:7 |
| 50:22 51:21 54:18 | 226:23 | 105:17 106:2 128:5 | 113:22 117:12 |
| 56:19 58:15,17 | malware 69:19,24 | 142:13 145:13 | 119:2 120:8 130:25 |
| 59:11,15 60:6,14,20 | 70:3,5,12,15,25 | 149:23 182:14,16 | 131:2 133:18,22 |
| 62:7,8,20,22 63:4 | 71:3,15,17,22 72:5 | 183:17,25 184:9 | 134:21 137:24 |
| 63:10,19 77:14 78:3 | 72:7,9,10,13,19,21 | 191:18,22,25 | 138:6 142:16 144:5 |
| 78:4,5,18,20 79:16 | 72:22 73:2,16,16,20 | 200:19 205:2 | 144:7 145:9,19 |
| 79:20,23 80:4 81:20 | 73:25 74:5,10,12,14 | 231:10,16 237:22 | 148:23 150:6,12,13 |
| 98:13 104:13 | 74:17 75:5,8,11,14 | | 151:16,20,23 152:6 |

| 153:12 154:14 | mention 27:6 77:15 | mike 8:13 10:2 13:8 | mother 151:2,10 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 155:4,20 163:7 | 142:10 | 21:23 22:10,19 33:8 | 251:4 |
| 165:6 171:13 | mentioned 11:9 | 169:19,20 | motivating 144:7 |
| 172:10 177:25 | 108:15 155:22 | mind 4:7 55:6 98:20 | motivation 50:16,19 |
| 181:4,6,11 184:22 | 230:11 232:17 | 151:21 | 51:10 141:3,4,6,13 |
| 192:10 196:23 | mentions 231:24 | minneapolis 228:18 | 141:15,17,19,20,24 |
| 198:5,16 199:9 | mercuri 219:9 238:2 | 230:7 | 141:25 142:3,5,6,11 |
| 200:2 202:17,25 | 238:5 254:21 | minor 47:23 48:8,12 | 142:16,17 143:18 |
| 204:6 210:15,23 | mercuri's 238:23 | 48:18,23 49:5,10 | 143:21,23 145:5,8 |
| 211:13,13 212:6,8 | mere 176:17 217:20 | 50:12,21 51:20 | 145:11,14,25 146:4 |
| 213:15 215:6 | merely 51:18 135:13 | 54:16 55:3,20 | 146:9,13 147:6 |
| 218:14 220:12 | 181:13 245:13 | minus 179:8,9 | motivations 141:11 |
| 222:6,22 223:17 | merge 132:11 | minute 61:6,7,16,17 | 242:7 |
| 225:6 226:3,10,14 | merged 140:24 | 82:12,25 136:17 | motive 144:2,6,8,13 |
| 226:15,17 232:6 | message 153:22 | 151:14 234:14 | 144:17 247:25 |
| 236:5,8 237:12 | 154:7 158:5 | minutes 24:19 60:5 | mountains 41:18 |
| 242:11 243:10 | met 54:8,12 | misapprehension | move 41:18 83:6 |
| 249:13 | metadata 90:8,11,16 | 93:13 | msn 157:11,25 |
| meaning 111:3,22 | 96:17 131:15,16 | mischaracterizes | 158:6,13 159:9 |
| 128:16 224:10 | 132:3,19,21 133:2,3 | 66:5 158:25 | 160:22 161:4,14 |
| means 19:4,4 22:24 | 133:4,6,16,19 134:5 | misconfiguration | 162:21 163:4 213:4 |
| 41:16 44:12 67:14 | 134:7,22 135:3,5,6 | 244:14 | msn.com 157:4 |
| 86:21 | 135:9,12,13 140:7 | misconfiguring | msn.com. 157:14 |
| | | 0 0 | |
| measure 88:24 | 143:22 198:15,17 | 245:13 | multiple 5:15 36:21 |
| measure 88:24 measurement 88:23 | 143:22 198:15,17 198:24 205:14 | 6 6 | multiple 5:15 36:21 66:14 148:19 149:7 |
| measurement 88:23 media 12:23 20:20 | 198:24 205:14 218:5,10 220:5 | 245:13 | 66:14 148:19 149:7 161:17 189:8 214:2 |
| measurement88:23media12:2320:2021:2024:1528:8,18 | 198:24 205:14 218:5,10 220:5 225:25 229:11 | 245:13 misdescription 92:13 misrepresenting | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 |
| measurement88:23media12:2320:2021:2024:1528:8,1834:2535:8,1836:19 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 | 245:13 misdescription 92:13 misrepresenting 126:25 | 66:14 148:19 149:7 161:17 189:8 214:2 |
| measurement88:23media12:2320:2021:2024:1528:8,1834:2535:8,1836:1937:19,20,2439:16 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 |
| measurement88:23media12:2320:2021:2024:1528:8,1834:2535:8,1836:1937:19,20,2439:1661:2270:3,12,15,24 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n 1:21 2:2 6:5 194:2 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 195:4 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 195:4 197:17 200:7,14 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 195:4 197:17 200:7,14 204:9 205:17 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 195:4 197:17 200:7,14 204:9 205:17 217:10 225:11 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 220:22 233:21 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 moment 27:11 82:10 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 152:23 154:13 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 130:12 138:9 197:17 200:7,14 204:9 205:17 217:10 225:11 meeting 6:21 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 220:22 233:21 238:14 239:2 240:7 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 moment 27:11 82:10 115:12 195:21 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 152:23 154:13 158:19 195:14,23 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 195:4 197:17 200:7,14 204:9 205:17 217:10 225:11 meeting 6:21 members 37:13 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 220:22 233:21 238:14 239:2 240:7 240:14 246:9 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 moment 27:11 82:10 115:12 195:21 money 141:8 142:3 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 152:23 154:13 158:19 195:14,23 196:5,18,24 198:13 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 197:17 200:7,14 204:9 205:17 217:10 225:11 meeting 6:21 members 37:13 83:10 \$3:10 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 220:22 233:21 238:14 239:2 240:7 240:14 246:9 microsoft's 218:5,24 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 moment 27:11 82:10 115:12 195:21 money 141:8 142:3 142:5,17 145:16 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 152:23 154:13 158:19 195:14,23 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 183:22 195:4 197:17 200:7,14 204:9 205:17 217:10 225:11 meeting 6:21 members 37:13 83:10 memorize | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 220:22 233:21 238:14 239:2 240:7 240:14 246:9 microsoft's 218:5,24 219:3,6 220:12 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 moment 27:11 82:10 115:12 195:21 money 141:8 142:3 142:5,17 145:16 morning 6:10,11,20 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 152:23 154:13 158:19 195:14,23 196:5,18,24 198:13 201:9,14,14,17,22 201:25 202:6 204:6 |
| measurement 88:23 media 12:23 20:20 21:20 24:15 28:8,18 34:25 35:8,18 36:19 37:19,20,24 39:16 61:22 70:3,12,15,24 80:19 93:4 95:20 107:5,17 108:19 112:21 121:18 123:13 124:3 130:12 138:9 150:7 183:22 197:17 200:7,14 204:9 205:17 217:10 225:11 meeting 6:21 members 37:13 83:10 \$3:10 | 198:24 205:14 218:5,10 220:5 225:25 229:11 232:10,15 238:19 242:23 247:8 method 25:20 methods 25:19 26:2 220:24 mexico 115:13 microsoft 57:11,12 57:14 74:20,25 75:2 75:12 166:17,20 172:14,16,22 173:3 173:7,11,21 218:17 220:22 233:21 238:14 239:2 240:7 240:14 246:9 microsoft's 218:5,24 | 245:13 misdescription 92:13 misrepresenting 126:25 missing 47:13,14 147:21 196:20 197:9,12 207:9 misspoke 68:3 mm 121:21 198:12 200:8 209:6 229:3 modified 135:14 227:5 229:7 modify 239:11 mom 151:18 moment 27:11 82:10 115:12 195:21 money 141:8 142:3 142:5,17 145:16 | 66:14 148:19 149:7 161:17 189:8 214:2 215:4,8,9,23,25 217:25 246:6 247:12 n n 1:21 2:2 6:5 194:2 194:2,2,18 253:7,24 254:2 name 52:16 53:16 63:21 64:6 76:23 77:12 92:4,20 93:2 94:14,15 96:6 125:6 152:23 154:13 158:19 195:14,23 196:5,18,24 198:13 201:9,14,14,17,22 |

[named - online]

| named 52:18 131:5 | 115:13,14 151:4 | 206:19 207:11 | offer 22:20 110:12 |
|----------------------------|-----------------------------|-----------------------------|----------------------------|
| 194:23 197:25 | 159:8 214:21 | 212:2 231:11 | 185:17 188:14 |
| 219:9 228:11 | 215:21 253:3,5,9 | 237:19 249:21 | 209:16 |
| names 91:13 92:15 | 255:3,3 | 250:5 | offered 15:8,9 18:7 |
| 94:3 133:21,25 | night 10:22,24 | objection 3:14 28:20 | 47:2,2,6 102:25 |
| 134:24 140:22 | nilly 171:2 | 31:7 39:8,18 43:3 | 103:5,8 112:11 |
| 201:12,21 202:7,12 | notably 72:11 | 51:22 56:15 58:2 | 190:4 |
| 203:21 222:25 | notary 1:21 6:6 | 66:4 71:8 77:23 | offering 96:15 |
| 234:25 | 252:22 253:8 | 80:8 83:18 87:10 | 128:18 189:15 |
| naming 92:19 93:5,7 | 255:25 | 126:10 136:11 | 190:16 |
| 201:19 | note 58:20 150:3 | 150:21 153:7 157:6 | offers 116:18 |
| native 179:24 180:4 | 154:23 156:17 | 158:24 164:13 | office 40:10 118:5 |
| 180:14 | 170:14,16 241:14 | 181:3 184:4 207:15 | 118:14 134:4 |
| near 110:14 118:5 | noted 194:3 252:13 | 218:22 231:20 | 223:12,13,22 |
| 228:23 | notes 34:11,16,18,21 | objectionable | 228:18 230:7 |
| necessarily 19:7 | 34:24 58:18 110:2 | 180:22 | offices 1:18 38:14 |
| 46:11 67:14 78:19 | notice 1:20 244:19 | obligations 43:4 | 118:7,24 |
| 79:8,16 176:5,8 | notion 62:9 | obtain 44:7 207:24 | offset 166:3 |
| 241:12 247:8 | novak 10:3 12:20 | obtained 41:24 | oh 5:24 68:5 213:24 |
| necessary 72:24 | 13:8,15,17 31:15 | 63:17 77:10 83:14 | ohio 2:8 |
| 182:25 | 234:8 235:8 | 83:20 | okay 5:4 7:10 11:23 |
| need 69:23 72:16 | november 22:14 | obvious 96:5 153:13 | 15:23 16:6,7 20:22 |
| 82:7 127:17 139:19 | 42:19 45:12 46:10 | 153:14 | 21:6,16 22:3 23:8 |
| needed 85:14,24 | 46:13 186:2,10,19 | obviously 4:2 16:4 | 23:13,15 28:3 31:14 |
| 153:20 | 232:17 233:2 | 46:20 69:17 141:6 | 36:25 38:8 39:14 |
| negative 190:21 | number 27:15 33:9 | 177:24 226:7 | 41:6 58:9 60:9 |
| negotiate 216:15 | 60:16 62:23 74:22 | 229:20 233:4 | 89:18 100:9,21 |
| negotiations 217:6 | 85:10 94:9 109:2 | occasion 241:15 | 108:16 118:13 |
| neighborhood 33:2 | 114:17 162:25 | occasionally 23:7 | 125:14,24 147:19 |
| neil 82:16 84:15 | 167:8 200:24,25 | 216:19 230:13 | 151:4 158:15 |
| 254:9 | 208:21 221:19 | occasions 73:9 | 162:24 169:23 |
| neither 13:3 | 235:23 | 149:7 177:14 | 170:7 175:11 180:3 |
| network 53:21 | numbering 27:20 | occur 49:11 57:4,8 | 192:6 202:5 218:9 |
| 220:12 251:20 | numbers 58:8 76:12 | 57:13,17,19,20 | 230:10 234:16 |
| never 57:23 80:10 | 76:13 84:19 208:24 | 166:5 167:2 173:5 | 236:18 238:7,11 |
| 80:11 102:25 109:9 | 0 | 176:9 244:14 | 246:19 248:16 |
| 109:23 110:6,7,13 | o 6:5 194:2,2,2,18 | occurred 42:7 50:22 | old 66:22 |
| 110:14,14 163:2 | oath 231:15 | 173:8 187:2 241:19 | once 23:19 46:20 |
| 180:10,17 182:14 | object 3:15 4:4 15:2 | occurring 57:22 | 75:16 |
| 182:16 191:25 | 17:25 18:21 21:15 | october 42:16,21 | one's 111:12 |
| 209:11 | 44:10 47:17 73:22 | 45:12,25 47:7 | ones 5:13 72:18 |
| new 1:3,19,20,22 | 76:18 86:8 105:9 | 165:25 186:21 | 78:10 131:5,5 157:9 |
| 2:14,14 3:22 8:20 | 113:20 127:10,12 | 226:18 233:3 | 226:2,2,2 |
| 75:13,19 113:4,6,14 | 145:18 180:20 | odd 151:23 188:20 | online 118:7 |
| 113:15,25 114:13 | 10110 100.20 | 188:25 | |

[open - particular]

| open 57:12 133:22 | order 36:21 92:15 | owner 61:25 | 16:2 17:2,7,12,16 |
|---------------------------|----------------------------|-----------------------------------|----------------------------|
| 174:10 229:6 | 95:7,16,23 96:14,19 | owns 145:21 | 18:9 20:15,18 86:25 |
| 239:10 | 183:20 188:2 | р | 87:8 88:18 89:11,24 |
| opened 118:25 | 220:20 236:13 | p 2:2,2 | 90:3 125:16,20 |
| 120:9,13,21 174:13 | ordered 33:23 35:17 | p.m. 193:20 194:3 | 142:24,24 143:3 |
| opens 159:8 174:15 | 36:13 | 252:13 | 144:10,12,17,19,24 |
| operate 12:25 65:7 | orders 36:21 | page 11:7,8 14:11 | 145:12,15,17 146:2 |
| 171:12 172:7 | ordinary 134:14,16 | 15:7,9,13,19 16:2 | 164:2 189:5,15 |
| 174:20 | 134:17,20 135:7 | 17:7,15 18:15 27:10 | 190:14,17,20 191:3 |
| operated 67:25 | organization 44:2,3 | 27:14,17,23,24 28:9 | 191:5,15,16,22 |
| 116:14 175:3 | 52:14 142:5 | 28:10,11 29:6 30:12 | 192:9,15 250:3 |
| operates 67:20 | organizations 43:20 | 30:13 55:7,11,16 | paragraph 51:15 |
| 170:22 | original 14:15 15:16 | 58:6,8,10,13 59:17 | 58:19 85:12 86:6,16 |
| operating 218:6,12 | 16:10,13,19 20:4 | 60:11,12,15,16,21 | 86:17,20 87:3 89:5 |
| 240:10 | 23:3,10,13 24:3,7 | 61:3,11 75:22 76:3 | 89:8,14,15 107:20 |
| operation 103:20 | 37:19,20,24 90:4 | 76:9 79:8 84:18,19 | 198:8 201:6 202:4,9 |
| 167:14 176:16 | 158:4 189:19 191:5 | 85:7,9 88:13 89:9 | 203:11,19 209:3,9 |
| 215:15,25 | originals 24:13 | , | 209:24 210:17 |
| operations 218:20 | 38:10 | 91:14,18,21,23 92:3 | 228:24,25 238:9,14 |
| 238:17 | originated 106:19 | 92:9,12,16,17 93:14 | 239:4 240:6 |
| opine 237:16 | 109:10 148:6 | 93:14 95:13 96:3 | paragraphs 203:4 |
| opinion 20:2 24:13 | origination 96:16 | 97:17 107:6,9,19 | pardon 54:10 |
| 48:16 79:7 85:23 | orin 54:6 | 108:15 120:22,24 | parents 59:19 60:3 |
| 96:15 102:19 103:9 | outcome 253:18 | 121:12,14 130:22 142:24 155:18 | 73:19 106:18 |
| 109:20 110:17,24 | outlined 122:15 | 164:2 190:20 191:2 | 112:24 114:2,6,7 |
| 110:25 111:25 | outlook 77:22 | 191:21,25 192:5,9 | 230:14,17,22 |
| 128:18 135:16 | 115:25 116:8,14,17 | 191.21,25 192.3,9 | park 1:19 2:13 |
| 140:13 142:22 | 116:19 117:15,17 | 192.14,15 197.5,8 | part 9:2 14:16 30:3 |
| 143:4,7,9,11,15 | 117:23,25 118:3,6 | 205:4,15,16,22,25 | 33:20 35:23,24,24 |
| 144:11 176:2 | 118:15,25 195:7,18 | 206:3,5,8,13,14 | 36:4 43:8 48:9 |
| 179:19 185:17 | outrageous 50:5 | 208:23 210:4 | 61:22 73:15 81:9 |
| 188:9,15 191:15 | 51:12 | 208.23 210.4 213:23 214:17,19 | 105:19 108:19 |
| 196:7 209:17 | outside 98:23 99:20 | 213.23 214.17,19 221:16,19,19 | 119:19 155:3 159:5 |
| 211:21 212:11 | 101:9 105:25 | 228:20,21 229:17 | 212:4,11 248:20 |
| 218:4,25 219:4,6 | 113:14,15 143:18 | 231:22 238:9,10 | 249:9 |
| 237:9,10,11,12,15 | 185:11 209:19 | 249:2,3,4,5 254:3 | partially 195:16 |
| 238:22 241:4 | overall 12:16,19 | 254:13 255:7 | 196:2 |
| 245:17 252:4,6 | 13:9 | page1.tif 205:20 | particular 78:22 |
| opinions 142:24 | overwhelming | pages 28:9 93:18 | 79:12 93:6 102:2,11 |
| 190:16 | 115:18,24 146:21 | 205:13,14 248:21 | 113:24 114:8,21 |
| opportunity 229:19 | 242:14 247:18 | paid 9:16 10:8 | 115:9 116:12 133:8 |
| opposed 21:2 | overwhelmingly | 214:10 223:25 | 134:15 233:15 |
| opposite 146:4 | 191:9 | paper 14:8,10,11,21 | 239:16,22 242:8,23 |
| oral 54:24 | owned 152:19 | 15:4,9,14,14,21 | 247:10 |
| | | 1.J.4,7,14,14,21 | |

[particularly - position]

| nanticularly 59.16 | noulla 157.2 | norconnol 127.12.15 | 208.12 227.0 |
|--------------------------------------------------|-----------------------------|--------------------------------------------------------|----------------------------------|
| particularly 58:16 196:11 | paul's 157:3 | personnel 137:12,15 persuasive 196:25 | 208:12 227:9 233:19 |
| | paulceglia 157:4,11 | L . | |
| parties 17:22 19:13 21:19 102:21 103:3 | 157:14,25 158:6 | phase 183:21 236:10 236:11 | plaintiffs 16:25 26:21 |
| | pause 84:21 151:14 | | |
| 103:10 126:14 | payment 30:10 | phone 39:4 62:23 | planned 193:4 |
| 148:17 188:18 | pc 197:17 | photo 23:23 | planning 4:8,14 |
| 189:16 225:21 | penalty 109:22 | photograph 150:25 | plans 4:11,18,22 5:2 |
| 253:16 | pending 127:12 | 151:24 | plausible 176:13 |
| parts 30:4,5 249:13 | people 6:24 11:9 | phrase 30:24 120:7 | play 146:9 |
| party 52:5 185:24 | 12:4,9 31:4,11 | 121:20 207:19 | pleadings 163:25 |
| pass 123:10 | 40:23 57:6,20 64:22 | physical 26:24 27:3 | 190:4,9 |
| passed 169:17 | 69:16 73:4 75:11 | 65:19,20 67:23 | please 5:6 28:12 |
| paste 139:4 164:25 | 130:17 151:25 | 88:22 89:21 108:8 | 32:10,16 68:21 |
| 166:21,24 167:10 | 161:21 181:22,24 | 111:10,20,23 112:4 | 175:9 202:4 205:3 |
| 167:11,14 176:16 | 182:7 183:9 207:24 | 113:12 114:20 | 237:23 |
| 211:25 212:4 | 214:5 234:5,24 | 232:9,11,13 238:10 | plug 251:17,19 |
| 215:14,16,24 216:4 | 235:14,15 | physically 83:16 | point 4:20 11:14 |
| pasted 139:6,12 | people's 69:14 | 111:3,8 112:24 | 18:14 26:7 78:22 |
| 164:16 165:3,5 | percent 89:11,23 | 113:14,18 114:13 | 79:12 86:25 109:3 |
| 169:3 172:16,24 | 90:4 | 117:3 138:16,19 | 113:24 114:8 |
| 173:20 211:9 | perform 69:23 | pick 219:25 | 115:10 145:25 |
| 233:19 | 182:24,25 | picked 75:18 | 148:12 152:13 |
| pasting 167:20 | period 161:13 | picks 219:19 | 166:2 167:10 |
| 172:18 | 162:12 186:3,5,6,7 | picture 23:9,11 24:4 | 186:10 193:17 |
| path 135:10 | 187:16,22 251:24 | 151:12 155:3 | 198:16,18 200:13 |
| pattern 135:12 | periods 147:22 | pictures 23:20 | 202:20 234:3 252:3 |
| 140:24 | perjury 109:22 | piece 34:25 35:8 | pointed 152:25 |
| paul 1:5 3:7 17:19 | permit 71:22 | 75:19 87:8 88:18 | 158:16 199:4 |
| 61:25 62:23 63:4,9 | perpetrate 245:13 | 89:11,24 90:2 98:24 | pointer 198:7 199:8 |
| 63:15,18 64:13 | perpetrated 146:22 | 150:7 154:17,21,22 | 199:10,13,16,18 |
| 67:15 73:19 77:14 | person 7:7 8:11 9:23 | 154:24,25 155:5 | pointing 55:9 |
| 92:9 105:14 106:18 | 14:5 21:17 40:13 | 246:17 250:3 | 198:21 199:12 |
| 108:10,20,22,24 | 64:8,12,17 65:2 | pieces 72:4,22 73:2 | 204:20 |
| 109:8,21,22 110:6 | 67:15 129:12 | 75:16 86:25 107:5 | points 191:23 |
| 110:13,17,20 111:2 | 139:23 141:4,5,13 | 107:16 199:21 | 220:10,19 246:11 |
| 112:18,23 113:11 | 147:2 170:4 174:10 | pinpoint 147:8 | poor 27:7 |
| 115:6,17 138:16,17 | 174:15 184:25 | pixels 232:14 | portion 37:15,16 |
| 139:24 140:17 | 191:2,21 228:16 | place 37:10 104:2 | 158:4 |
| 149:22 150:24 | 230:8 | 229:9 244:19 | portions 11:8,18 |
| 151:2,18 152:9,15 | person's 104:16 | placed 30:14 218:11 | posited 151:24 |
| 152:25 160:21 | 210:21 | places 75:23 76:6 | positing 64:9 |
| 161:4 163:3 179:11 | personal 53:11 | plaintiff 1:6 2:5 3:7 | position 63:7 103:2 |
| 187:14,15 200:22 | 139:3 161:12 237:9 | 109:9 150:7 187:25 | 128:6,8,12,14 |
| 201:3 228:8,11 | personally 23:6 39:3 | plaintiff's 70:18 | 151:10,13 153:24 |
| 254:12,17 | 145:20 | 84:16 142:23 | 154:4 158:21 159:2 |

[position - prudent]

| 160.11.160.12 | f 20.2 | | 196-24 25 197-4 24 |
|---------------------------|----------------------------|-----------------------------------|---------------------------|
| 160:11 168:13 | prefer 38:3 | privileged 39:21 224:16 | 186:24,25 187:4,24 |
| possession 51:19 | premise 75:10 77:25 | | 188:4 191:6 232:18 |
| 90:19 202:19,22 | preparation 6:15 | probability 111:22 | 232:22 236:7 |
| possibilities 95:6 | 9:5,21 11:7 54:13 | 114:15 115:8,14 | productions 186:13 |
| 154:18 | 240:15 | 207:14 | 186:20 232:22 |
| possibility 69:25 | prepare 224:7 | probably 5:11 | professional 40:24 |
| 111:11 112:16 | prepared 205:11 | 113:12 119:4 | 139:4 |
| 116:25 | preparing 8:16 9:16 | 161:16 192:17 | proffered 16:10 |
| possible 14:4 33:8 | 12:13 223:15 | 193:6,14 194:8,13 | proficiencies 106:7 |
| 38:14 54:25 55:8 | present 2:21 38:22 | 243:20 | proficiency 106:3 |
| 56:22 68:15 73:12 | 38:25 | problem 102:4 | program 64:23 |
| 73:15 75:15 94:22 | presented 191:6,16 | 241:7 | 65:11 69:19 117:15 |
| 95:11,15 106:22,24 | 231:23 | problems 23:20 | 130:8,11,20 131:18 |
| 106:25 112:6,14 | preserve 225:11 | 217:17 | 172:23 |
| 114:19 117:5,13 | president 12:15 | procedural 225:15 | programming 139:9 |
| 119:12 123:24 | presumably 194:14 | procedure 3:21 | programs 104:9,11 |
| 131:22,24 133:11 | presumptively | proceed 100:4 | 117:6,7,8,9,11,13 |
| 134:18 135:23 | 123:8 124:4 225:16 | proceeded 128:5 | 133:18,21 |
| 136:4 138:15,16,19 | pretty 67:7 | proceeding 203:3 | projects 235:13,16 |
| 138:20,21 139:2 | prevent 146:5 | process 11:15 48:22 | pronounce 228:12 |
| 154:17 155:5 | previous 26:3 30:24 | 50:25 55:3 56:23 | proof 50:20 56:4 |
| 181:11 184:18,21 | 214:20 | 57:8 134:5,9 139:14 | proper 103:24 |
| 184:22 185:24 | previously 3:19 | 173:9 | properties 206:4,6 |
| 230:21,24,25 234:7 | 83:23 108:5 | processes 79:25 | 206:14 |
| 239:10 245:11 | primarily 235:8 | processing 183:2 | prosecution 238:18 |
| possibly 114:4 | primary 12:2 | produce 29:8 33:16 | protocol 183:20 |
| post 4:8,15,19,23 | 235:10 | 42:24 43:7 45:7 | 225:7 |
| 122:22 129:19 | principle 116:5 | 75:11 124:24 125:7 | proves 14:22 17:9 |
| 190:2 | 117:25 | 150:7 215:21 225:6 | 63:8 |
| potentially 216:21 | print 91:9 | 225:16,17 | provide 39:22,24 |
| practice 13:24 14:3 | printed 27:13 88:19 | produced 9:2 10:20 | 46:22 72:10,24 |
| 37:23 70:14,16 | 156:19 189:14,17 | 29:4,7,17 45:10,11 | 81:18 183:4 189:12 |
| 238:20 | 189:22 | 70:11 105:14,17 | provided 5:22 9:6 |
| practices 3:25 81:14 | printout 87:12,16 | 107:22 108:2,10,11 | 12:19 47:12 54:4 |
| 81:25 | 87:23 | 108:18,20,21 123:9 | 72:14 73:3 105:14 |
| pre 214:24 236:10 | prior 26:14 50:8 | 125:5 150:11 188:5 | 110:9 124:25 |
| preceded 210:14 | 51:2 52:3,9,10 | 197:17 200:9 201:8 | 126:15 147:15 |
| precise 114:10 | 74:12,24 75:7 120:5 | 202:14,24 206:9,15 | 159:14 187:25 |
| 115:12 139:19 | 123:21 127:8 | 207:7,10 223:8 | 197:7 |
| 150:23 | 128:15 129:2,11 | 231:14 | provides 209:7 |
| precision 181:15 | 148:12 179:11 | producing 11:12 | providing 47:15,18 |
| predates 239:7 | 210:16 236:12 | 41:10 150:18 231:7 | 192:11 |
| 241:5 | privilege 123:10 | product 68:9 | provisions 30:9 |
| predecessor 20:19 | 180:10,17 225:17 | production 10:10,11 | prudent 184:24 |
| - | | 28:25 43:12 125:11 | 185:3,6,15 |
| | | | |

[public - recollection]

| public 1:21 6:6 | 50:19 51:13,16,23 | 253:2 | 160:25 |
|----------------------------|-----------------------------|-------------------------|---------------------------|
| 252:22 253:8 | 53:8 57:5,18 66:9 | ran 169:12 | reasonably 41:20 |
| 255:25 | 66:10 70:8,10 71:21 | range 10:7 | reasons 37:3 |
| publications 40:24 | 74:19 75:10 76:2 | rate 9:19,22,24 | rebecca 219:9 238:2 |
| 41:4 | 82:5 86:4 89:19 | 223:4 | 238:5 254:21 |
| publicly 4:25 | 94:13 100:22 | rates 10:6 223:5 | recall 17:5 26:23 |
| published 41:4 | 109:17 112:12 | reach 196:17 197:3 | 30:13,16 33:11 39:5 |
| pull 116:21 118:19 | 113:22,23 122:18 | reaction 192:19 | 47:5,9 48:11,15,22 |
| 155:4 | 123:22 126:24 | read 10:19,23 11:15 | 52:12 71:10,11,14 |
| pulled 228:2,3 | 127:5,6,11,23,24 | 12:17 16:24 17:2,8 | 75:24 90:13 91:11 |
| purport 211:14 | 128:3,4,5,12,21 | 26:20 28:11,14,17 | 119:21,24 130:4 |
| purported 81:20 | 133:15,17 135:4,19 | 29:22 30:5,7,8,9 | 172:13 177:20 |
| 146:23 149:4 183:7 | 139:20,25 143:10 | 55:6,18 70:17 86:17 | 178:21 179:25 |
| 216:11 217:24 | 144:4,9 145:2,14 | 89:16,18 108:24 | 180:5,6,8,11 181:4 |
| 225:14 226:14 | 150:20 151:20 | 109:3 121:18 150:3 | 184:16 187:18 |
| purportedly 114:5 | 152:6,9,10 153:10 | 156:5 159:16 | 192:18,19,22 198:6 |
| 150:10 165:8 | 153:18 160:18 | 160:11 177:23 | 227:13,20,23 228:5 |
| purporting 164:16 | 162:3 168:17,18,20 | 178:4 203:12 209:4 | 230:3,20 232:18 |
| purports 191:17 | 168:22 170:15 | 209:11,24 225:8 | 233:9,15 250:11 |
| purpose 63:3 239:23 | 172:21 174:8 | 229:22 230:2,3 | recalling 66:11 |
| 244:23,23 245:7 | 183:14,19,24 184:3 | 241:14 250:9 | 195:2 |
| purposes 43:24 76:2 | 184:6,7,16,17 185:9 | reading 11:3 30:6 | receipt 120:18 |
| 123:14 | 185:10 187:10,13 | 55:8 71:11 90:16 | receive 122:16 |
| pursuant 1:20 35:19 | 211:18 212:23 | 183:20 227:17 | received 9:2 41:25 |
| 187:25 220:2 225:7 | 218:7 226:9 243:2 | 250:12 | 42:4,10,14,17,18 |
| put 3:13 23:17 28:6 | 243:11 | reads 238:14 | 45:24,25 57:23 |
| 67:18 68:13 87:7 | questions 7:20 | real 142:8,12,25 | 59:20 60:4 61:3,3 |
| 90:3 92:21 95:11 | 11:20 16:11 49:22 | 144:14 145:10,12 | 61:13,14 121:22 |
| 114:17 150:12 | 83:7 104:18,24 | 156:3 226:23 228:6 | 122:10 123:6,21 |
| 156:21 175:9 | 127:4,20 137:6 | 244:17 254:15 | 129:3 159:25 160:2 |
| 177:19 191:21 | 166:22 227:21 | reality 245:5 | 160:8,10 162:7 |
| 199:20 217:19 | 234:23 252:9 | really 21:3 26:9 69:4 | 175:7,24 186:14 |
| 219:12 243:2 | quick 27:15 | 75:9 82:4 102:5 | 210:7,12,19 211:4 |
| 247:13 | quicker 198:6 | 117:10 185:16 | 211:20 227:3 |
| puts 89:5 163:11 | quickly 91:20 | 193:5 237:9 | receives 210:21 |
| 198:5 | 194:16 | realm 143:18 | receiving 98:6 |
| q | quite 178:12 209:20 | reason 13:17 16:22 | 123:14 149:20 |
| qualified 19:20 20:2 | quotation 210:16 | 29:16 44:17 46:16 | recess 82:15 136:25 |
| 22:19 153:2,8 252:3 | quote 131:8 209:23 | 76:25 89:3,20 90:15 | 193:20 234:18 |
| quality 28:15 | 209:25 210:4 | 116:15 215:19 | recipient 57:25 |
| question 7:6,7,20,25 | 213:23 | 244:20 245:18 | 217:3 |
| 10:14,16 11:6 23:5 | r | 255:7 | recognize 52:16 |
| 26:3 30:24 34:15,19 | r 2:2 6:5,5 194:2,18 | reasonable 74:8 | recollection 33:10 |
| 37:22 43:19 50:18 | 194:18 228:12 | 131:20 135:17,25 | 52:24 91:17 92:2 |
| | | 155:9,11,14 160:13 | 97:13 109:4,7 120:2 |

[recollection - report]

Page 29

| 120:15 170:3 231:4108:14 109:25177:19,19,24 178:610:20,23 11:3,8,12232:25 248:11121:6 155:24 157:8183:13,18 184:1911:17,18,24 12:5,7reconstruct 10:18160:6,7,9 162:8,9185:20 225:1612:10,10,13,18235:17,21164:5 180:13233:713:10,12,19,22 14:5record 3:13 8:6 42:6197:13 198:17reliability 218:5,1814:6,17,23 17:3,478:17 79:12 82:10210:13,16 248:8238:1518:19 19:12 25:1882:22 84:14,25 85:2refers 203:3 209:8reliable 209:1326:20,23 27:6,1185:4,6 88:4,9reflect 40:11240:16 241:1328:6 29:4,7,10,18127:14 136:24reflected 211:20relied 8:16 146:2430:14,20,20 31:4,5137:4 178:9 193:17reflects 42:6rely 129:24 137:2032:5,7,13 33:7,24229:16 234:17,21refresh 91:16 92:2141:7 182:3 226:635:15,16,21,22 36:2235:1297:12 120:15239:1339:17,22,23,24 40:4210:8 220:22regard 70:5 110:21remined 229:958:18 60:11 61:21recorde 97:2 98:22248:11relying 240:940:6,8,15,18 41:10210:8 220:22regarding 39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,1040:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,1040:1440:7 53:20 59:10,1866:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23rem |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| reconstruct10:18160:6,7,9 162:8,9185:20 225:1612:10,10,13,18235:17,21164:5 180:13233:713:10,12,19,22 14:5record3:13 8:6 42:6197:13 198:17reliability 218:5,1814:6,17,23 17:3,478:17 79:12 82:10210:13,16 248:8238:1518:19 19:12 25:1882:22 84:14,25 85:2refers 203:3 209:8reliable 209:1326:20,23 27:6,1185:4,6 88:4,9reflect 40:11240:16 241:1328:6 29:4,7,10,18127:14 136:24reflected 211:20relied 8:16 146:2430:14,20,20 31:4,5137:4 178:9 193:17reflects 42:6rely 129:24 137:2032:5,7,13 33:7,24193:18 224:14reflects 42:6rely 129:24 137:2032:5,7,13 33:7,24229:16 234:17,2197:12 120:15239:1339:17,22,23,24 40:4recorded 97:2 98:22248:11relying 240:940:6,8,15,18 41:10210:8 220:22regard 70:5 110:21remained 229:958:18 60:11 61:21recording 82:21237:14relying 240:958:18 60:11 61:21records 35:10 40:10regarding 39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,1040:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover 78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable 195:16232: |
| 235:17,21164:5 180:13233:713:10,12,19,22 14:5record3:13 8:6 42:6197:13 198:17reliability 218:5,1814:6,17,23 17:3,478:17 79:12 82:10210:13,16 248:8238:1514:6,17,23 17:3,482:22 84:14,25 85:2refers 203:3 209:8reliabile 209:1326:20,23 27:6,1185:4,6 88:4,9reflect 40:11240:16 241:1328:6 29:4,7,10,18127:14 136:24reflected 211:20relied 8:16 146:2430:14,20,20 31:4,5137:4 178:9 193:17reflects 42:6rely 129:24 137:2031:6,12,20,22 32:2193:18 224:14reflects 42:6rely 129:24 137:2032:5,7,13 33:7,24229:16 234:17,21reflects 42:6rely 129:24 137:2039:17,22,23,24 40:4recorded 97:2 98:2297:12 120:15239:1339:17,22,23,24 40:410:8 220:22regard 70:5 110:21remained 229:958:18 60:11 61:21recording 82:21237:14remember 29:1370:2,8,11,18 71:12recorder 35:10 40:10regarding 39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover 78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable 195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| record3:13 8:6 42:6197:13 198:17reliability218:5,1814:6,17,23 17:3,478:17 79:12 82:10210:13,16 248:8238:1518:19 19:12 25:1882:22 84:14,25 85:2refers203:3 209:8reliable209:1326:20,23 27:6,1185:4,6 88:4,9reflect 40:11240:16 241:1328:6 29:4,7,10,18127:14 136:24reflected211:20relied8:16 146:2430:14,20,20 31:4,5137:4 178:9 193:17reflects42:6rely129:24 137:2032:5,7,13 33:7,24193:18 224:14reflects42:6rely129:24 137:2032:5,7,13 33:7,24229:16 234:17,2197:12 120:15239:1339:17,22,23,24 40:4recorded97:2 98:22248:11relying240:940:6,8,15,18 41:10210:8 220:22regard70:5 110:21remained229:958:18 60:11 61:21records35:10 40:10regarding39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,1040:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 78:17 79:12 82:10210:13,16 248:8238:1518:19 19:12 25:1882:22 84:14,25 85:2refers 203:3 209:8reflect 40:11240:16 241:1326:20,23 27:6,1185:4,6 88:4,9reflect 40:11240:16 241:1328:6 29:4,7,10,18127:14 136:24reflected 211:20reflected 211:2031:6,12,20,22 32:2137:4 178:9 193:17reflects 42:6reflects 42:631:6,12,20,22 32:2193:18 224:14reflects 42:6rely 129:24 137:2032:5,7,13 33:7,24229:16 234:17,2197:12 120:15239:1339:17,22,23,24 40:4recorded 97:2 98:2297:12 120:15239:1339:17,22,23,24 40:4210:8 220:22regard 70:5 110:21remained 229:958:18 60:11 61:21recording 82:21regarding 39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,1040:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover 78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable 195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 82:22 84:14,25 85:2 85:4,6 88:4,9refers 203:3 209:8 reflectreliable 209:1326:20,23 27:6,11 28:6 29:4,7,10,18127:14 136:24 137:4 178:9 193:17 193:18 224:14 229:16 234:17,21reflected 211:20 reflects240:16 241:13 240:16 241:1328:6 29:4,7,10,18 28:6 29:4,7,10,18193:18 224:14 229:16 234:17,21 252:12reflects 42:6 97:12 120:15relied 8:16 146:24 240:2131:6,12,20,22 32:2 31:6,12,20,22 32:2252:12 252:1297:12 120:15 97:12 120:15239:13 239:1339:17,22,23,24 40:4 39:17,22,23,24 40:4recorded 97:2 98:22 20:22248:11 regard 70:5 110:21 237:14relying 240:9240:9 40:6,8,15,18 41:10records 40:1435:10 40:10 40:14regarding 40:7 53:20 59:10,18relying 66:3,6 103:1375:21,23 76:6,10 75:21,23 76:6,10recover 78:19 79:21106:7 110:17 106:7 110:17166:10 227:15,21 230:1480:25 81:11,13 80:25 81:11,1379:25 126:7 187:20 196:12 222:18220:10 223:23 220:10 223:23230:14 65:17 67:21 68:1084:15,20 85:8 87:6 90:21,24 91:5,10,16 |
| 85:4,6 88:4,9reflect 40:11240:16 241:1328:6 29:4,7,10,18127:14 136:24reflected 211:20reflected 211:2030:14,20,20 31:4,5137:4 178:9 193:17reflective 174:14reflective 174:1430:14,20,20 31:4,5193:18 224:14reflects 42:6reflects 42:631:6,12,20,22 32:2229:16 234:17,21refresh 91:16 92:2141:7 182:3 226:635:15,16,21,22 36:2252:1297:12 120:15239:1339:17,22,23,24 40:4recorded 97:2 98:22248:11relying 240:940:6,8,15,18 41:10210:8 220:22regard 70:5 110:21remained 229:958:18 60:11 61:21records 35:10 40:10regarding 39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,1040:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover 78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable 195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 127:14 136:24 137:4 178:9 193:17 193:18 224:14 229:16 234:17,21 252:12reflected 211:20 reflective 174:14 reflects 42:6 97:12 120:15relied 8:16 146:24 240:2130:14,20,20 31:4,5 31:6,12,20,22 32:2 32:5,7,13 33:7,24recorded 97:2 98:22 210:8 220:2297:12 120:15 97:12 120:15239:13 248:11 regard 70:5 110:21 237:14relying 240:9 remember 29:1330:14,20,20 31:4,5 31:6,12,20,22 32:2 32:5,7,13 33:7,24recording 82:21 40:14240:21 regard 70:5 110:21 237:14relying 240:9 remember 29:1339:17,22,23,24 40:4 40:6,8,15,18 41:10records 35:10 40:10 40:14regarding 39:16,25 40:7 53:20 59:10,18 106:7 110:1747:15,18,24 48:8,13 166:10 227:15,21 230:1472:12,19 74:11 80:25 81:11,13recover 78:19 79:21 196:12 222:18 recoverable 195:16160:23 207:6 219:6 232:3,7,8230:14 65:17 67:21 68:1084:15,20 85:8 87:6 90:21,24 91:5,10,16 91:18,19 93:10,19 |
| 137:4 178:9 193:17 193:18 224:14 229:16 234:17,21reflective174:14 reflects240:21 rely31:6,12,20,22 32:2 32:5,7,13 33:7,24229:16 234:17,21 252:12refresh91:16 92:2 97:12 120:15141:7 182:3 226:6 239:1339:17,22,23,24 40:4recorded97:2 98:22 248:11 regard248:11 relying240:9 141:7 182:3 226:639:17,22,23,24 40:4210:8 220:22 recordingregard70:5 110:21 237:14remained229:9 remained58:18 60:11 61:21 70:2,8,11,18 71:12records35:10 40:10 40:14regarding39:16,25 47:15,18,24 48:8,1347:15,18,24 48:8,13 66:3,6 103:1372:12,19 74:11 75:21,23 76:6,10recover78:19 79:21 160:7 110:17166:10 227:15,21 230:1480:25 81:11,13 84:15,20 85:8 87:6196:12 222:18 recoverable220:10 223:23 23:3,7,8remote65:3,5,6,15 65:17 67:21 68:1090:21,24 91:5,10,16 91:18,19 93:10,19 |
| 193:18 224:14 229:16 234:17,21 252:12reflects 42:6 refresh 91:16 92:2 97:12 120:15rely 129:24 137:20 141:7 182:3 226:6 239:1332:5,7,13 33:7,24 35:15,16,21,22 36:2 39:17,22,23,24 40:4recorded 97:2 98:22 210:8 220:2297:12 120:15 248:11 regard 70:5 110:21 237:14relying 240:9 remained 229:939:17,22,23,24 40:4 40:6,8,15,18 41:10recording 82:21 40:14237:14 regarding 39:16,25 40:14relying 240:9 40:6,8,15,18 41:1058:18 60:11 61:21 70:2,8,11,18 71:12records 35:10 40:10 40:14regarding 39:16,25 40:7 53:20 59:10,18 106:7 110:1747:15,18,24 48:8,13 66:3,6 103:1372:12,19 74:11 75:21,23 76:6,10recover 78:19 79:21 196:12 222:18 recoverable 195:16160:23 207:6 219:6 232:3,7,8230:1484:15,20 85:8 87:6 90:21,24 91:5,10,16 91:18,19 93:10,19 |
| 229:16 234:17,21 252:12refresh91:16 92:2 97:12 120:15141:7 182:3 226:6 239:1335:15,16,21,22 36:2 39:17,22,23,24 40:4recorded97:2 98:22 248:11248:11 regardrelying240:9 240:940:6,8,15,18 41:10 58:18 60:11 61:21recording82:21 237:14237:14 237:14remember29:13 47:15,18,24 48:8,1370:2,8,11,18 71:12 70:2,8,11,18 71:12records35:10 40:10 40:14regarding39:16,25 40:7 53:20 59:10,1847:15,18,24 48:8,13 66:3,6 103:1370:2,8,11,18 71:12 70:2,8,11,18 71:12recover78:19 79:21 106:7 110:17166:10 227:15,21 230:1480:25 81:11,13 84:15,20 85:8 87:6 90:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 252:1297:12 120:15239:1339:17,22,23,24 40:4recorded97:2 98:22248:11relying240:940:6,8,15,18 41:10210:8 220:22regard70:5 110:21remained229:958:18 60:11 61:21recording82:21237:14remember29:1370:2,8,11,18 71:12records35:10 40:10regarding39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| recorded97:2 98:22248:11relying240:940:6,8,15,18 41:10210:8 220:22regard70:5 110:21remained229:958:18 60:11 61:21recording82:21237:14remember29:1370:2,8,11,18 71:12records35:10 40:10regarding39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 210:8 220:22regard70:5 110:21remained229:958:18 60:11 61:21recording82:21237:14remember29:1370:2,8,11,18 71:12records35:10 40:10regarding39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| recording82:21237:14remember29:1370:2,8,11,18 71:12records35:10 40:10regarding39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| records35:10 40:10regarding39:16,2547:15,18,24 48:8,1372:12,19 74:1140:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 40:1440:7 53:20 59:10,1866:3,6 103:1375:21,23 76:6,10recover78:19 79:21106:7 110:17166:10 227:15,2180:25 81:11,1379:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| recover78:1979:21106:7110:17166:10227:15,2180:2581:11,1379:25126:7187:20160:23207:6219:6230:1484:15,2085:887:6196:12222:18220:10223:23remote65:3,5,6,1590:21,2491:5,10,16recoverable195:16232:3,7,865:1767:2168:1091:18,1993:10,19 |
| 79:25 126:7 187:20160:23 207:6 219:6230:1484:15,20 85:8 87:6196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable 195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| 196:12 222:18220:10 223:23remote 65:3,5,6,1590:21,24 91:5,10,16recoverable 195:16232:3,7,865:17 67:21 68:1091:18,19 93:10,19 |
| recoverable 195:16 232:3,7,8 65:17 67:21 68:10 91:18,19 93:10,19 |
| |
| 196·2 regardless 115·9 68·17 25 69·4 21 97·13 102·19 |
| 190.2 regulatess 115.9 00.17,25 09.7,21 97.15 102.19 |
| recovered 227:24 registered 77:4,11 71:18,22 72:16,24 119:15,19 120:16 |
| recovery 43:24 113:3 152:22 73:5 111:11,17,21 122:24 123:5 124:8 |
| red 23:20,24 24:6 158:18 112:6,8,13,16 130:2 131:10 |
| redacted 8:7 131:9 regular 89:11,24 114:18 137:22 138:5 140:5 |
| redirect 252:11 related 31:25 32:2,3 remotely 67:16 155:18 163:20 |
| refer 189:9 205:17 32:5 33:22 35:11 68:11 69:13 111:5 165:15 166:8 |
| reference 60:18 40:19 52:3,25 53:3 removable 198:19 180:22 189:3,6 |
| 159:15 162:490:8 102:18 122:17198:23 199:5 200:7190:13 195:2 197:7 |
| 197:11 203:20124:18 221:17200:13 204:9197:11 199:20 |
| referenced 85:10 245:7 253:16 205:17 200:5,6 201:10,22 |
| 157:17 178:11,17relates55:12,17renowned106:14202:8 203:7,20 |
| 179:6 206:9relation 59:14repeat 64:11 86:4205:18 207:9 |
| references 176:22 218:11 139:25 231:12 208:15,17,18 |
| 213:11 relationship 220:11 237:8 219:12 220:17 |
| referred 17:8 76:3 220:14 rephrase 105:10 221:3,12 223:9,15 |
| 211:11 relatively 209:20 rephrasing 168:19 224:7 225:6 227:8 |
| referring 7:2 15:5 242:21 reply 157:3,23 227:17 231:8,14 |
| 15:24 17:4 27:19relevant41:13158:22 159:11234:6,25 235:3,10 |
| 54:21 56:16 59:4,6 80:23,25 81:2,7,15 replying 160:22 236:4,7,24 237:9 |
| 59:24 60:11 76:11 82:2,2 123:4,8 report 5:7 6:2 8:8,9 239:7 240:15,21 |
| 86:22,24 89:13124:4 137:25 138:38:11,14,16,17,20241:14 247:4 248:9 |
| 90:24 92:7 108:12 138:12 174:8 9:21,23,25 10:5,11 249:8,13 250:18 |

| 254:7 | resulted 139:14 | 129:23 132:19 | 50:1 51:1 52:1 53:1 |
|-----------------------------------------------------|----------------------------|-----------------------------|---------------------|
| reporter 1:21 84:24 | resulting 89:10 90:6 | 129:23 132:19 | 54:1 55:1 56:1 57:1 |
| 253:7 | results 13:9 35:14 | 142:4 145:6 146:8 | 58:1 59:1 60:1 61:1 |
| | 38:17 40:7 | 142:4 145:0 140:8 | 62:1 63:1 64:1 65:1 |
| reporting 255:2 reports 14:2 16:24 | resumed 194:18 | 148:5 149:9 151:22 | 66:1 67:1 68:1 69:1 |
| 39:15 227:15 | resyncs 251:20 | 159:13 160:3 | 70:1 71:1 72:1 73:1 |
| | retain 44:23 | 161:22 162:13 | 74:1 75:1 76:1 77:1 |
| represent 55:14 109:16 | retained 202:20 | 163:2,16 164:4 | 74.1 75.1 70.1 77.1 |
| represented 195:13 | retains 251:18 | 165:21 166:6 | 82:1,16,24 83:1 |
| represents 158:22 | retrieval 186:12 | 168:14 170:24 | 84:1,11 85:1 86:1 |
| request 7:6 33:19 | retrievals 185:25 | 171:14 178:7,15 | 87:1 88:1 89:1 90:1 |
| requested 194:7 | returned 118:24 | 179:15 181:7 | 91:1 92:1 93:1 94:1 |
| require 69:17,18 | returning 135:5 | 186:22 197:18,22 | 95:1 96:1 97:1 98:1 |
| required 3:23 | reveal 59:10,13 | 199:3,24 206:17 | 99:1 100:1 101:1 |
| researched 72:21 | 112:17,21,23 | 208:24 210:24 | 102:1 103:1 104:1 |
| reserve 3:14 4:4 | review 14:10 32:14 | 213:22 218:13 | 105:1 106:1 107:1 |
| reside 113:23,25 | 41:9 51:3,9 52:2 | 221:25 222:6 | 108:1 109:1 110:1 |
| 114:9 117:4 211:16 | 53:12 123:10 183:4 | 223:18 226:17,25 | 111:1 112:1 113:1 |
| resided 78:21 | 183:5 208:15,16 | 228:23 234:20 | 114:1 115:1 116:1 |
| 112:18,21 113:5,7 | 225:17 227:8 | 239:10 242:13 | 117:1 118:1 119:1 |
| 113:13 114:7 | 229:20 233:13 | 245:11 246:10 | 120:1 121:1 122:1 |
| residence 230:12 | reviewed 11:16 | 251:5 | 123:1 124:1 125:1 |
| resides 114:5 | 29:10 30:18,19,23 | ring 53:16 177:15 | 126:1 127:1 128:1 |
| residing 149:16 | 30:25 31:4,19 32:6 | rja 1:4 | 129:1 130:1 131:1 |
| 168:8 | 32:11 33:17 40:17 | road 2:6 | 132:1 133:1 134:1 |
| resolution 27:7 | 41:21 52:6,22 53:2 | rogue 245:6 | 135:1 136:1 137:1,4 |
| 28:15 | 81:19 123:7 178:5 | role 13:5 182:21 | 138:1 139:1 140:1 |
| resolve 222:15 | 207:5 208:17 | 183:12 228:7 | 141:1 142:1 143:1 |
| resolves 76:23 77:12 | reviewing 13:9 | 254:16 | 144:1 145:1 146:1 |
| 152:23 | 70:23 | rolling 137:2 194:5 | 147:1 148:1 149:1 |
| respect 4:7 | rewrite 214:18 | rootkit 71:5 104:25 | 150:1 151:1 152:1 |
| respects 250:8 | right 3:15 4:4 5:10 | rootkits 103:13,16 | 153:1,24 154:1,4,8 |
| responding 161:5 | 12:5,8 18:11 20:16 | 103:18 | 154:9,9 155:1 156:1 |
| responds 154:24 | 24:9 25:2 27:22 | rose 1:18 3:8,8 6:10 | 157:1 158:1 159:1 |
| response 155:22 | 54:6 56:20 58:22 | 7:1 8:1,5 9:1 10:1 | 160:1 161:1 162:1 |
| 156:12 159:25 | 61:11,23 64:6 65:4 | 11:1 12:1 13:1 14:1 | 163:1 164:1 165:1 |
| 224:18 | 66:16 72:5 81:17 | 15:1 16:1 17:1 18:1 | 166:1 167:1 168:1 |
| responsible 13:7 | 82:9 84:19 85:19 | 19:1 20:1 21:1 22:1 | 169:1 170:1 171:1 |
| rest 78:10 226:20 | 90:19 91:22 95:13 | 23:1 24:1 25:1 26:1 | 172:1 173:1 174:1 |
| restore 220:9,19 | 95:23 97:12 98:23 | 27:1 28:1 29:1 30:1 | 175:1 176:1 177:1 |
| 246:11 | 100:11 105:12,13 | 31:1 32:1 33:1 34:1 | 178:1 179:1 180:1 |
| rests 16:4 | 107:19 121:13,24 | 35:1 36:1 37:1 38:1 | 181:1 182:1 183:1 |
| result 35:13 131:21 | 122:10 123:5 | 39:1 40:1 41:1 42:1 | 184:1 185:1 186:1 |
| 173:21 176:14 | 124:14 125:12 | 43:1 44:1 45:1 46:1 | 187:1 188:1 189:1 |
| 216:20 243:25 | 126:2 127:24 | 47:1 48:1,6 49:1 | 190:1 191:1 192:1 |

| 193:1 194:1,22 | sat 100:15,16 | scan001.tif 93:23 | 89:12 91:20,22 |
|----------------------------|---------------------|----------------------|-------------------------|
| 195:1 196:1 197:1 | satellite 198:9 | scanned 64:2 65:18 | 115:4 121:5,20 |
| 198:1 199:1 200:1 | save 67:23 68:11 | 85:13,18,25 86:21 | 124:3 132:24 133:2 |
| 200:21 201:1,4 | 189:24 215:16 | 86:22,25 90:5 93:7 | 133:6 135:9,24 |
| 202:1 203:1 204:1 | 219:24 222:5 | 93:17,19 94:9,10,18 | 145:9 153:4,16 |
| 205:1,4,10 206:1 | saved 68:16 219:23 | 94:19,25 95:8,12,18 | 157:20 158:6 |
| 207:1 208:1 209:1 | 229:10 | 96:4 112:3 148:8,11 | 167:22 173:4 |
| 210:1 211:1 212:1 | saverin 53:14 | scanner 92:20,21 | 176:11 177:19,23 |
| 213:1 214:1 215:1 | saving 215:15 | 93:6 94:3,5 95:2,4 | 187:14,24 188:4 |
| 216:1 217:1 218:1 | savings 165:21 | 95:12,16,25 | 197:8,13 198:11,21 |
| 219:1 220:1 221:1 | 174:5,6,11 | scanners 95:13 | 201:4 205:16,19 |
| 222:1 223:1 224:1 | saw 74:10 249:20 | scanning 95:23 | 206:7 209:23 |
| 225:1 226:1 227:1 | saying 26:10 47:24 | 160:16 | 212:16 214:4 |
| 228:1,6,10 229:1 | 51:24 78:14,20 81:2 | scans 25:21 75:18 | 215:14 224:3 229:2 |
| 230:1 231:1 232:1 | 87:20 90:2 110:13 | 93:10 | 238:13 242:3 |
| 233:1 234:1,22,23 | 111:12 120:12 | scenes 171:15,22 | 244:13 246:7,11 |
| 235:1 236:1 237:1 | 122:24 123:24 | scheme 93:5 | 247:11,12,12 248:3 |
| 237:24 238:1,4 | 127:13 140:19 | scratch 58:21 | seeing 242:3 |
| 239:1 240:1 241:1 | 148:7 149:23 154:7 | screenshot 206:4,6 | seen 14:12,13,14,15 |
| 242:1 243:1 244:1 | 159:12 160:25 | 206:13 207:2 | 14:22 16:9,13,15,21 |
| 245:1 246:1 247:1 | 171:21 181:14 | seagate 93:22 96:10 | 53:21 84:11 125:19 |
| 248:1 249:1 250:1 | 195:4 197:25 | 96:12 108:2 221:3,7 | 125:21,22 146:7,9 |
| 251:1 252:1,16 | 204:19 212:19,24 | 248:7 251:22 | 169:9 181:21 |
| 253:10 254:4,7,9,11 | 239:17 243:24 | search 35:3 45:14 | 185:23 249:18,24 |
| 254:13,15,19 255:6 | 246:16,19 | 125:5 183:3 | 250:4,7,16 |
| 255:21 | says 19:5 30:7,8 | seat 62:11,17 | selected 210:16 |
| roughly 33:3 61:7 | 39:23 89:12 109:11 | second 17:13 42:17 | self 182:8 |
| 61:17,19 | 110:5 131:6 149:22 | 48:3 61:10 84:22 | semantics 75:14 |
| rule 7:16 111:16 | 149:22 150:2 | 85:12 91:14 92:17 | send 57:12 64:10 |
| 134:17,18 160:15 | 151:17 157:11 | 93:14 95:8,13 96:3 | 65:10 76:24 104:12 |
| 160:20,23 214:11 | 158:4,5,6 179:9 | 96:12,21 97:17 | 111:2,4,6 113:13 |
| 214:12 | 191:25 210:5 229:4 | 107:20 108:6 | 118:9 122:5 123:23 |
| ruled 160:24 161:24 | 233:23 | 131:13 166:7 191:2 | 129:13 161:13 |
| 162:8 | scan 70:12,15,24 | 205:23,25 206:3 | 230:22 |
| rules 3:20,21 6:23 | 90:5 94:4 95:8,8,10 | 228:24 249:2,4 | sender 92:9 |
| 7:2,17 49:21 223:23 | 95:13,23 | seconds 59:22 61:9 | sending 24:22 63:3 |
| run 82:13 170:25 | scan0001 91:17 | section 11:16,24 | 63:6 149:20 154:8 |
| 173:22 | 94:15 96:11 194:23 | 26:23 30:8 121:2 | 161:17 179:25 |
| s | scan0001.tif 91:14 | 238:12 | sends 159:7 |
| s 2:2 6:5 166:22,25 | scan0002 94:14 96:6 | secured 38:13 | sense 66:15 75:10 |
| 168:14 170:20 | 96:9 | security 219:8 | 106:4 222:14 |
| 171:17 194:2,2,2,18 | scan0002.tif 92:4 | see 27:25 53:5,6,23 | sent 59:18 60:2,14 |
| 255:7 | 93:17 | 55:9,11,16 58:25 | 60:17,21,23 61:11 |
| | scan0002.tif. 92:11 | 59:3 60:15,18 73:13 | 62:8,24 63:10,18 |
| | | 77:17 85:12,16,17 | 64:13,16 75:22 76:3 |

| 76:16 77:16,20 78:4 | 211:12,23 244:10 | shut 75:17 194:9 | sit 22:16 228:5 |
|----------------------|-------------------------|---------------------------|---------------------------|
| 78:5,8,11,17 79:9 | 244:17,18 245:15 | shutter 23:11 | sits 222:13,21 |
| 79:10,14,17,22 | servers 43:16,22 | side 7:8,14 19:9 | sitting 6:25 62:17 |
| 92:14 97:19 98:10 | 59:7 97:21 98:4,15 | 149:20,20 192:16 | 63:9 64:9,14,17 |
| 109:21 110:18,20 | 99:4,5,7,14,16,19,21 | 192:16,17,18 | 65:7 215:4 |
| 112:19,22,25 | 101:2,7,17 149:15 | sides 150:17 216:18 | six 131:4 140:21 |
| 113:16,17 114:12 | 151:7 168:8 177:3 | sidley 35:20 58:11 | 188:23 |
| 114:14,16,22 115:6 | 195:5 211:16 | 58:15 59:4,7,10,20 | size 26:24 27:3 |
| 115:8,12,13,14,17 | service 64:23 | 60:4 61:4,14 62:24 | 28:18,21 29:5,6,13 |
| 115:22 116:2 117:9 | set 3:25 43:7 51:2,3 | 98:4 99:3,4,8 | 29:17,22,24,25 |
| 118:17,20,21,23 | 57:14,15 58:24 90:5 | 149:16,16,18 | 85:16,21,24,25 86:3 |
| 122:13,19,22,25 | 97:25 116:20,25 | 150:10,11,16 151:7 | 87:20 89:11,23 90:4 |
| 123:21,25 129:16 | 119:10 122:3,6 | 152:16 160:3 177:4 | 91:2,4 195:14,24,25 |
| 129:20,25 138:18 | 129:12,16,24 | 195:5 244:9,12,20 | 196:6,19 197:2 |
| 149:21 150:10 | 171:14 174:22 | 245:6 | 203:5,10,15,25 |
| 152:7,9 153:21,24 | 183:3 233:13,14 | sign 12:9,14 13:18 | 204:6,7,15,20,23 |
| 154:3,5,7,11,14 | 253:11,21 | 13:22 14:2 190:20 | 205:19,22 206:7,11 |
| 156:6,9,11 159:5,24 | sets 56:18 62:23 | 192:9 | 206:16 232:9,11,14 |
| 160:21 161:4,8,22 | 225:9,14 | signatories 13:21 | 249:7,11 |
| 162:4,6,16,17,19,21 | setting 58:23 97:23 | signatory 14:6 | sizes 203:22 204:14 |
| 163:5 165:21,25 | 98:16 177:5 220:11 | signature 63:24 | 206:23 |
| 174:9,16 175:23 | 244:11 245:14 | 64:3 152:25 191:21 | small 28:16,24 |
| 177:13 179:7,23 | 251:14 | signed 8:9,11,14 | 87:13 88:5 150:2 |
| 180:16 181:4,5 | settings 250:25 | 13:11 62:23 63:15 | 201:20 235:13 |
| 187:15 195:10,12 | seven 22:14 187:2,4 | 63:20 126:13 | smaller 87:7 88:17 |
| 227:2 231:9,15 | 189:21 | 147:15,17 152:24 | 88:21 250:14 |
| 232:5 | sfwebworkforhire | 153:23 188:10,13 | smoking 150:14 |
| sentence 58:22,25 | 131:14 | 191:2,17,25 192:4 | snapshot 79:11 |
| 59:2,3 107:20 108:7 | sharing 147:6 | 231:17 | 186:9 |
| separate 42:11 | sheet 255:2 | significant 236:15 | snyder 54:6,16,23 |
| 43:12 159:3 | shortcut 198:4,7 | significantly 10:4 | 54:25 |
| separately 247:7 | 205:5 254:14 | 24:10 249:17 | social 53:21 |
| september 246:13 | shortly 98:14 | signing 125:17,22 | software 13:2 35:5 |
| sequential 220:20 | shoulder 200:17 | 188:22 | 69:9,19,24 92:21 |
| 246:12 | show 18:10 93:5 | signs 212:25 | 93:2 94:3,5 103:25 |
| series 78:23 171:25 | 102:13 122:25 | similar 189:4,20 | 104:4 133:23 |
| serve 48:6 | 198:16,18 200:15 | 190:5 197:5 | somebody 80:21 |
| server 44:5,14 45:20 | 204:22 212:25 | simultaneous | 114:5 135:14 141:9 |
| 46:2,6,7,8,8,11,21 | 247:20 | 163:14 | 141:11 239:18 |
| 58:11,20 59:5,21 | showed 77:8,10 | single 125:7 178:10 | 240:23 244:12 |
| 61:4,14 98:2,5,5,19 | 87:15 90:23 151:2 | 229:18 243:8,10 | someone's 104:12 |
| 98:25 99:2,3 151:5 | 207:2 | 245:12 | 104:15 143:23 |
| 151:8 169:21 | shown 87:6 229:18 | sir 51:16 127:4 | somewhat 189:18 |
| 173:15,16 186:2 | shows 63:18 146:19 | 160:18 183:24 | son 109:8 110:6 |
| 210:9,19,20 211:3 | 146:20 150:4 212:9 | | |

[sorry - study]

| | 1 | | |
|-----------------------------|-----------------------------|---------------------|-----------------------------|
| sorry 59:25 68:5 | space 49:3 50:7,17 | stamp 5:19 197:8 | stay 216:13 |
| 70:22 90:22 94:13 | 51:5 167:6 | 218:19 226:16 | stenographically |
| 121:10 140:2 157:4 | spaced 229:18 | 238:16 239:19 | 253:14 |
| 162:17 204:10 | spaces 167:8,15 | 241:16 244:22,22 | steps 35:7 |
| 249:8 | 201:16 | stamps 59:17 60:2 | stewart 204:11 |
| sort 11:25 136:21 | speak 80:9,12 | 218:15 229:5 | storage 55:2 56:23 |
| 143:18 151:23 | 214:22 | 238:13 240:10 | straightforward |
| 214:7 218:20 | speaking 8:23 128:3 | 241:22,25 | 153:15 |
| 224:10 227:5 | 209:15 | stand 27:16 | strange 151:15 |
| 232:13 236:9 | specific 15:5 48:15 | standard 60:24 | strangeness 152:12 |
| source 45:8 46:3,19 | 54:3 57:9 72:4,9 | 70:14,16 152:14 | strategic 82:5 |
| 46:23 133:22 | 79:2 103:23 109:4 | 166:2 174:6 209:19 | strategy 13:9 80:16 |
| 167:21,21,23,24 | 112:12 147:4 156:4 | 226:19 | 185:10 |
| 176:22 209:14 | 157:7 184:16,17 | standing 176:4,7,18 | streetfax 14:22 17:9 |
| 233:15 | 224:19 226:11,13 | 217:19 243:15 | 17:22 18:5,18 19:8 |
| sources 184:19 | 227:20,23 240:20 | standpoint 62:10,15 | 19:12 20:12 23:3 |
| 247:19 | 241:9,21 243:21 | 149:2 | 24:12 28:7 30:8 |
| southwell 2:15 3:2,3 | 245:20 | start 60:8 72:7 | 58:15 60:20 63:4 |
| 3:12 4:14,17,20,24 | specifically 35:14 | 82:19 194:4 198:9 | 77:13 81:21 92:3,10 |
| 5:4,9,16,21 14:25 | 59:8 63:5 67:19 | 214:19,19 | 102:22 103:9 107:3 |
| 15:16 16:8 17:25 | 71:10 90:13 117:18 | started 6:12 36:6 | 107:11,17,23 |
| 18:21 21:11,15 | 117:21 122:4 | 55:7 128:3 224:6 | 114:24 115:5 142:9 |
| 28:20 29:23 31:7,23 | 148:15 175:3 | starts 209:4 228:25 | 146:10,14,20 148:2 |
| 32:2 33:15,18,22 | 179:13 180:12 | state 1:22 65:2,12 | 148:25 150:14 |
| 39:8,18 40:3 43:3 | 212:3 | 74:6 113:14,15 | 155:11 191:9 |
| 44:10 47:17 51:22 | specifics 71:9 | 114:14 178:8 253:3 | 192:12,16 242:17 |
| 54:20 55:11 56:15 | 116:11 120:16 | 253:8 | 247:16 248:18 |
| 58:2 59:24 60:10 | specified 183:6 | stated 37:2 | 249:5,19 |
| 66:4 70:20 71:8 | specify 15:3 40:3 | statement 41:8 | streetfax.com 183:9 |
| 73:22 76:18 77:23 | speculate 17:12 18:9 | 50:11 54:15,19,22 | stricken 127:13 |
| 80:8 83:18,23 84:21 | 26:16 37:22 | 55:5,20 78:23 | stroz 3:9 6:2 8:8,13 |
| 86:7 87:10,16,22 | speculating 143:25 | 107:14 110:21 | 9:17 10:9,13 12:16 |
| 88:3,8 93:8 105:9 | speculation 136:12 | 140:8 171:5 182:3 | 13:24 14:4 22:8 |
| 109:24 110:4 | 207:12 | 210:3,14 211:10 | 37:23 39:6 40:13,23 |
| 113:20 121:6,9,12 | spelled 166:11 | 220:6 223:24 | 43:14 48:17 49:13 |
| 126:10 127:18,22 | spent 235:24 | 229:14 238:23 | 49:17,19,24 50:4,6 |
| 128:4 136:11,18,23 | split 49:7 | statements 78:24 | 50:11,15,20,24 51:8 |
| 145:18 150:21 | spoke 182:14 | 79:3 182:9 229:25 | 51:18 56:13 81:12 |
| 153:7,21 157:6 | spoken 80:6,10,11 | 240:9 | 83:13 88:23 91:8 |
| 158:7,24 164:13,18 | 182:16 | states 1:2 80:22 | 137:12,14,20 170:8 |
| 168:21 180:12,19 | spoliation 199:23 | 85:22 | 173:2 187:9,20,24 |
| 184:4 186:15 191:4 | 200:4 | stating 187:15 | 214:9,17 215:3 |
| 192:24 193:7,12,16 | ss 253:4 | 202:17 | 228:17 230:5 254:7 |
| 249:16 | stages 235:15 | statutory 3:23 | study 223:25 |
| | | | |

| stuff 139:13 148:18 | 148:6 172:20 181:9 | t | 181:10,16 186:18 |
|---------------------------|-----------------------|------------------------|------------------------------|
| subject 49:3 50:17 | 181:14 182:23 | t 166:20,22 168:14 | 191:4 197:9 198:9 |
| 92:8,14 183:3 | 184:8,11 190:23 | 169:7,11,15 170:19 | 201:9 202:7 203:6 |
| submitted 16:25 | 224:15 225:8 226:3 | 170:20 171:17,17 | 203:25 204:2 208:6 |
| 163:24 | 226:9 235:16,18 | 194:2 253:2,2 | 216:6,9 219:17 |
| subpoenas 35:19 | 248:12 249:22 | table 91:22 92:7 | 223:4 225:19 |
| subscribed 252:18 | 250:22 | 93:16 | 230:15 236:16 |
| 255:22 | surface 48:25 | take 7:11 37:10 | 239:15,22 243:4,12 |
| subsequent 152:16 | surprise 203:14,16 | 82:12 86:17 103:20 | 249:22 |
| 186:13,19 200:14 | 203:17 | 104:9,10 127:20 | tape 3:10 44:21 |
| 233:4,5 | surprising 130:16 | 136:16,21 164:18 | 82:21 137:2 194:4 |
| subsequently 123:9 | surrounding 176:19 | 193:8,8 234:13 | task 187:11 223:19 |
| substance 189:19 | 204:17 | 245:23 247:6 | tasked 183:15 |
| substitute 214:25 | sworn 3:11 6:6 | taken 82:15 136:25 | team 21:18 33:6 |
| sufficient 13:21 | 252:18 253:12 | 142:17 147:5 | 34:9 37:13 40:17 |
| suggesting 190:19 | 255:22 | 142.17 147.5 | 41:24 43:6,15 52:2 |
| 190:25 | sync 116:25 117:6,7 | 253:13 | 52:22 53:12 72:18 |
| summarizing 175:8 | 117:8,9,14 118:2,25 | talk 19:10 21:7 | 89:23 124:24 125:5 |
| supervise 37:15 | 119:11 | 33:25 60:21 61:2 | 126:7 136:7 137:8,8 |
| supervised 31:11,16 | synced 117:21 119:5 | 65:23 75:22 76:3 | 137:12 |
| 37:13,16 84:4 | synchronize 116:3,8 | 104:21 119:13 | technical 48:13 49:6 |
| 137:18 235:9 | 116:21 117:19 | 104.21 119.15 | tell 9:15 33:10 54:18 |
| supervising 13:7 | 118:16 | 145:3,11 181:18 | 55:19 62:16 84:11 |
| supervision 12:17 | synchronizes 116:19 | 189:6,8 195:21 | 86:18 96:17 129:5,5 |
| 12:19 | synchronizing | 220:20 221:13 | 129:10,24 156:25 |
| supplemental | 118:4,8 | 225:18 | 159:20 163:12 |
| 200:21 201:2 | syncing 116:12,16 | talked 14:23 26:24 | 183:14 204:20 |
| 254:11 | synonymous 247:25 | 56:19 103:12 | 208:20 209:24 |
| support 97:9 113:4 | 248:5 | 141:20 148:3 150:2 | 214:16 232:13 |
| 141:7 142:15,20 | system 79:24 98:21 | 176:7 185:25 219:3 | 240:23 243:22 |
| 150:8 165:8,14 | 98:23 99:23,25 | 219:5 230:11 248:7 | telling 34:20 182:19 |
| supporting 166:13 | 101:19,24 102:7,10 | 249:25 250:11 210:7 | tells 80:22 145:10 |
| supports 64:20 | 102:15 149:6 211:5 | talking 7:17 14:8 | 148:16,21 156:16 |
| 111:25 139:22 | 215:20 218:6,12,16 | 15:25 16:6 17:16 | 191:20 |
| 140:13,15,17 192:8 | 218:20 219:18,24 | 18:16 20:15 23:2 | template 212:15 |
| suppose 138:20 | 219:25 220:3,9,11 | 31:23 32:23 37:18 | 213:4 214:24 |
| supposed 225:3 | 220:19,21,22 | 51:4 54:17 60:7 | tens 72:5 |
| supposedly 106:19 | 222:16 238:17 | 63:21 68:3,4 72:4 | term 22:22 45:19 |
| sure 10:5,15 15:6 | 239:21 240:10 | 81:11,12,13 86:7,9 | 46:7 48:11 111:15 |
| 22:23 25:6 28:23,25 | 241:7,16 242:4 | 87:14 88:9,16 107:4 | 236:23 |
| 31:8,10 39:20 55:7 | 246:7,9,14,17 247:5 | 112:8 117:3 124:5 | terms 22:18 29:2 |
| 69:25 74:19,21 75:4 | 248:6 250:25 | 131:2 134:11 | 30:10 34:21 35:3 |
| 79:6 82:14 85:3 | 251:20 | 157:21 159:21 | 76:19 92:16 102:6 |
| 89:17 93:12 97:10 | | 160:17 171:25 | 112:11 113:6 |
| 140:4,20 144:3 | | | 114:20 116:11 |

[terms - time]

| | | | 1 |
|----------------------|---------------------|--------------------------|---------------------|
| 125:6 145:21 | 45:9 50:15,23 57:16 | 226:15 227:24 | 160:2,6,7,9,21 |
| 148:24 177:2 183:3 | 58:7 63:11 64:19 | 229:24 231:2 232:2 | 161:8,14,17,23 |
| 188:10 195:14,17 | 65:17,19 67:24 68:3 | 232:24 234:14 | 162:5,6,8,9 190:9 |
| 215:20 225:9 | 72:6 74:8 77:8,24 | 236:3,13 237:23 | 194:22 195:6 |
| 226:20 | 77:25 79:18 80:24 | 239:4,13,23 240:2 | 199:15,15 200:5 |
| test 131:5,7 132:9 | 86:20 95:22 97:2 | 240:21 241:9,11,14 | 205:15,16 206:8 |
| 140:23 173:3,18,22 | 98:9 99:13,21 100:3 | 241:21 242:3,6,20 | 232:8,10 |
| tested 169:9,21 | 101:24 105:3 107:5 | 243:13,19,20 | tightrope 151:18,22 |
| testified 6:7 18:23 | 107:15,16,18,19 | 244:20,25 245:3,12 | till 188:19 |
| 65:24 83:23 94:10 | 108:6 110:19 111:9 | 245:16,18,23 246:3 | time 10:19 24:20,21 |
| 94:12,16 194:19 | 111:19,20,21 112:2 | 247:15,18 248:2 | 26:9,15,22 37:8 |
| 232:24 | 113:4 114:3,4,19,22 | third 42:18 46:5 | 58:23,24 59:17,20 |
| testify 153:3,9 | 115:4,8,18 116:24 | 198:8 209:3 228:20 | 60:2,4,24 61:4 |
| testifying 66:3,6 | 117:21 119:2,9,11 | 228:21 238:10,13 | 78:18,22 79:12 |
| 232:19 | 121:2 125:19 | thomas 2:16 | 86:17 97:2,4,20,23 |
| testimony 6:14,15 | 130:25 131:3,4,19 | thorough 45:14 | 97:25 98:11,14,17 |
| 9:9,12 22:5,20 | 132:11,24 133:7,13 | thoroughness | 98:19,22 99:17 |
| 26:11 66:5 115:11 | 135:17,21,25 | 185:22 | 100:4,8,14 101:12 |
| 132:23 169:20,22 | 138:12,12,25 | thought 81:12 180:7 | 102:8,14 109:4 |
| 207:20 224:2,9 | 140:23 141:2,11,12 | 200:17 216:7 | 112:11,18,22,25 |
| 253:11,12 | 142:5,10 143:24 | thousand 161:23 | 113:15,19,24 114:8 |
| testing 170:9 | 144:5,5,7 145:16 | 235:25 236:3,20 | 114:12 115:10 |
| tests 169:12 | 146:7,16 147:9 | thousands 72:6 | 116:13 147:16,22 |
| thank 93:15 121:11 | 148:24 149:11 | threads 163:15 | 156:5 165:19,21,21 |
| 248:16 | 152:5,8 153:13 | three 42:10 43:12 | 166:2,4 170:17 |
| theoretically 106:25 | 161:7,16 162:2 | 77:16 99:7 101:2 | 171:23 172:2,17 |
| 112:8 135:23 136:4 | 166:9 167:3 169:9 | 165:9 167:15 194:7 | 173:19,25 174:5,6,6 |
| 139:2 | 171:11 172:10 | 205:13 213:20 | 174:9,11,12,13,14 |
| thing 5:15 96:2 | 174:17 175:9,16 | 215:17 216:10 | 174:18,24 175:5,6 |
| 101:10,11 115:19 | 176:10,13,25 177:2 | 220:24 235:9 | 175:13,18,25 |
| 155:6 184:24 185:3 | 177:6 181:8 182:11 | tiff 19:25 20:13,19 | 176:18,24 177:2,4 |
| 185:6 237:23 246:6 | 182:13 183:12 | 20:23 21:8,9,18,23 | 178:20,24 179:7,8 |
| things 20:5 37:3 | 184:24 185:5,16,18 | 23:2 24:12 25:17 | 179:17 180:21 |
| 41:17 67:23 72:6 | 185:22,24 187:12 | 26:25 27:4,12 30:12 | 186:3,5,6,7 187:16 |
| 95:14,21 103:21 | 188:8,20 189:17 | 30:13 62:7 65:25 | 187:22 194:3 200:7 |
| 105:25 123:7 137:6 | 193:3,13 194:7,8 | 66:7 67:10,17 68:13 | 210:5,7,12,19 211:4 |
| 166:12 169:6 194:9 | 196:9,22 200:20 | 85:15 86:2,9,13 | 211:19 212:16 |
| 216:7 226:18 | 204:22 208:18 | 87:2,5 88:13,24 | 213:7 214:18 216:3 |
| 239:20 243:3 | 209:22 210:2 212:6 | 89:5,10,22 90:9 | 218:14,19 220:12 |
| 248:14 | 212:7,9,14 213:22 | 91:3,4,9,12 96:23 | 220:22 222:3 |
| think 10:15 14:3,14 | 213:25 214:23 | 97:7 99:9 101:5 | 226:16,18,19 227:3 |
| 16:9,23 18:4,22,24 | 215:24,25 217:22 | 102:18,22 106:18 | 227:22 229:5,11,13 |
| 19:3,7 22:22 24:17 | 217:23,25 218:7 | 108:23 147:25 | 238:12,16 239:19 |
| 24:20 27:16,17 33:8 | 219:16 220:7 221:5 | 148:16,20 149:11 | 241:15,22,25 |
| 36:16 37:5 41:15 | 223:2,23 224:17 | 159:18,19,23,23,24 | 244:10,17,21,22 |

[time - understood]

| 245:14,14 246:9 | track 251:9 | 177:7 182:9 221:15 | types 71:17 74:5 |
|---------------------------|----------------------|---------------------------|------------------------------------|
| 251:7,10,14,17,19 | tracks 250:23 | trying 49:24 81:18 | 214:17 |
| 251:24 252:13 | trading 57:6 | 88:8 150:22 168:17 | typical 93:6 |
| time's 244:16 | training 3:20 8:25 | 176:25 214:5,6 | typically 21:3 34:24 |
| times 41:15 42:3,7 | 20:7 238:25 | 241:23 | 35:4,7,9 37:24 |
| 97:8 98:3,8,15 | transcribed 253:14 | tuesday 166:11,18 | typing 64:14,17 |
| 99:22 148:19 | transcript 127:23 | 169:6,10 213:11 | u |
| 171:17 207:20 | transcripts 9:6 | turn 118:15 | u 166:20,22 168:14 |
| 224:8 231:2 240:5 | transmitted 99:2 | twice 41:24 | 169:7,11,15 170:19 |
| 241:2 243:4 246:6 | trash 117:4 | twins 52:18,19 | 170:20 171:17,17 |
| timewise 194:6 | tremendous 141:8 | two 10:3 12:4,9,14 | 228:12 |
| title 30:7 | tremendously 142:4 | 13:14,20 14:11 15:7 | u.s. 209:4 |
| today 4:16 6:14,15 | trub 2:22 | 15:9,13,19 16:2 | ultimate 142:16 |
| 7:20 8:20 22:16 | true 24:25 25:3 42:7 | 17:7,15,22 18:15 | |
| 38:11 54:13 74:23 | 43:16 64:8,10,18,19 | 20:13 21:8,9,18 | 247:14,17 |
| 104:19 175:23,23 | 65:8,9 67:18 73:23 | 22:25 26:25 27:4 | ultimately 156:25 189:22 |
| 175:24 197:7 | 76:17 79:7,13,18 | 30:13 31:19 42:6,9 | |
| 207:21 215:5 | 83:11 84:16 87:8 | 46:25 47:12 48:23 | unable 116:8 |
| 227:23 228:5 | 90:11 91:13,15 | 49:4,7 52:18 55:4 | uncomfortable |
| 235:19 248:23 | 94:21 101:5 102:21 | 60:5,6,20 62:7,8,20 | 11:19 |
| today's 9:5 | 108:11 109:19 | 67:10 77:13 93:18 | uncovered 110:23 |
| toggle 242:2 | 113:19 116:4,6,23 | 95:21 96:23 97:7 | 237:14 |
| told 170:4 | 117:16 122:13,19 | 98:4 99:4,5,8,9 | underlies 37:5 |
| tom 3:4 | 123:3 124:10 125:2 | 101:4 107:4,18 | underlying 212:15 229:12 |
| tomorrow 4:17,19 | 130:6 137:18 | 118:14,23 123:7 | underneath 158:4 |
| 5:12 17:15 | 138:24 146:7,25 | 125:8 137:7 142:24 | underscore 201:23 |
| tool 131:17 133:5 | 152:11,20 154:14 | 147:25 148:20 | underscores 201:15 |
| tools 23:24 35:5 | 154:15 156:9 | 151:3 156:10,13 | understand 7:22,25 |
| 69:8 133:22 | 162:18 164:22 | 158:22 159:24 | 16:21 21:14 23:5 |
| top 5:19 27:19 61:3 | 166:14,24 189:6 | 160:8 161:8,13 | 26:6,9 29:23,25 |
| 76:11,13 85:10 | 200:7,10 202:14 | 162:5,11,16,25 | 57:5 74:19 75:9 |
| 91:23 107:6 120:24 | 206:11 213:8,9,13 | 163:6,22,23 164:2 | 80:11 86:12 89:25 |
| 155:20 157:5,8,10 | 215:5,6,14 216:4 | 165:13 167:7,14 | 144:3 172:20 |
| 157:12,13,22 197:8 | 219:20 221:4,5,22 | 194:22 196:6,18 | 202:19 211:17 |
| 197:15 210:4 | 222:18 227:12 | 197:3,11,20,21,24 | 202.19 211.17 225:2 239:15 |
| 222:13,22 | 229:21 230:5 | 198:13 200:5,16 | understanding |
| topic 46:24 83:5 | 232:23 243:9 | 201:8 202:7 203:6 | 45:17 54:4 81:16 |
| 137:7 192:25 197:5 | 245:21 | 203:10 205:14 | 84:17 141:22 |
| 216:13 239:2 | truecrypt 177:13 | 207:17 215:12 | 167:25 169:13,16 |
| topics 47:3 | 179:23 | 222:9 231:22 250:2 | 169:17 172:6 |
| toshiba 197:10,21 | trust 179:3 | type 64:5 | 225:21 |
| 198:9 | try 15:4 18:11 | typed 63:21 149:22 | understood 7:21 |
| total 10:8 223:7,14 | 131:12 132:11 | 152:25 153:22,23 | 184:15 |
| trace 106:23 107:2 | 140:24 142:11 | 154:4,9,13 212:20 | 104.15 |
| | 146:4 150:19 173:2 | | |

[uniform - ways]

| uniform 167:18 | 120:11,12,20 | vera's 77:6 | W |
|----------------------------|---------------------------|----------------------------|--------------------------------------------|
| 170:25 171:3 | 123:14 124:12 | verified 206:21 | waded 216:13 |
| uniformly 171:23 | 125:14 126:20 | veritext 255:2 | |
| unintentional 55:25 | 127:8 129:2 130:13 | version 5:17,20,22 | walker 151:4,22 |
| 56:6 | 130:17 131:17 | 5:25 8:21 28:22,23 | walking 151:3,11,18 wall 251:8,15 |
| unintentionally | 133:10 147:7 | 74:22,23,24,25 | · · |
| 56:13,13,20 | 181:18,22,25 | 75:12 90:21 116:13 | want 3:13 4:3 16:11 |
| unique 6:23 233:2 | 206:19 214:13,20 | 117:22,22,23 | 39:19 69:20 79:3 |
| 233:11 | 230:13 232:9 | 172:14 197:6 | 82:12 84:24 92:5 |
| unit 2:7 | 238:19,21 241:3 | 214:20 248:22 | 93:11,11 114:17 137:5 185:17 |
| united 1:2 | 247:24 | 249:16,18,25 | |
| universal 165:19 | user 61:25 76:23 | 250:14,15 | 188:14 193:11,16 207:24 214:22 |
| 173:25 174:12,14 | 77:11 79:24 80:21 | versioning 116:11 | 219:13,22 224:15 |
| 174:24 175:5,13,18 | 95:18,24 152:23 | 234:3 | 234:13 236:8 |
| 175:25 176:24 | 158:19 172:11 | versions 74:18 75:7 | 234:15 250:8 |
| 179:8,17 180:21 | 218:20 238:17 | 133:23 173:3 189:9 | 244:21 wanted 194:10 |
| university 43:21 | 239:20 | 189:14 190:5 195:8 | |
| unplug 251:8,15 | V | 195:22,23 196:6 | warren 2:6 |
| unplugged 251:24 | | 214:3,8 215:4,9,18 | way 21:10 22:4 26:19 29:19 34:23 |
| unquestionable | vague 218:22 | 215:19,23,25 216:8 | |
| 171:11 | valuable 142:4 | 216:9,21 217:8,20 | 35:12 57:2 62:6 |
| unrealistic 152:3 | value 80:20 | 217:25 221:17 | 66:10 67:9 68:12,15 |
| unredacted 5:22 | variation 75:20 | 233:20 247:12 | 68:17 75:3 87:7 |
| unsigned 189:8,13 | variations 71:22 | 250:7,9 | 90:20 92:22 94:20 |
| unsurprisingly | 189:21 | versus 145:20 | 94:22 95:17 102:16 |
| 186:25 | varies 44:2 | video 3:23 4:5 82:19 | 103:4,5,11 106:15 |
| unusual 77:19 223:2 | variety 65:25 66:7 | videographer 2:22 | 111:6 116:20 |
| update 134:11,20 | 125:5 239:20 | 3:10,14,17,18 4:2 | 120:14,17 132:22 |
| 214:20 | 247:19 | 82:7,21 137:2 194:5 | 135:20 136:5,15 |
| updated 239:20 | various 26:2 32:17 | 234:19 | 146:8 147:11 |
| 241:16 | 32:21,22 35:18 | videoing 4:7 | 150:19 166:16,17 |
| upper 58:7,7 84:19 | 40:24 42:3 68:24 | videotape 4:12 | 166:18 167:13,18 |
| 91:21 121:13 | 75:23 81:20 167:8 | videotaped 1:17 | 169:10,14 170:17 |
| 208:24 221:19 | 181:7,7 183:9 | 3:16 | 171:12,14 172:7 |
| upstate 113:6 | 184:14 197:17 | view 133:3,5 135:8 | 173:15 181:25 |
| usage 134:14,16,17 | 202:19 214:3,8 | 174:19 217:7 | 196:16 197:3 201:8 |
| 135:7 | 225:15 235:14,15 | viewed 131:16 229:8 | 209:7,17 219:4 |
| usb 25:9 66:24 | 242:6 | vilan 2:22 | 220:4,7,14,16 222:20 230:20 |
| 197:9,12,16,21 | vary 9:22 116:13 | virtual 228:7 254:16 | 231:5 235:3 240:12 |
| 199:5 203:7,21 | 117:21 189:18 | virus 75:18 | 231:5 235:5 240:12 240:22 241:8,17 |
| 207:9 | 229:11 | visit 113:25 | , |
| use 5:13 23:6 32:21 | vast 235:6,6,11 | visually 192:14 | 248:21 249:12 |
| 45:18 46:7 63:5 | vera 76:16,19,24 | vpn 69:2,7 | 253:18 |
| 65:3 77:7 92:21 | 77:2,12 152:19,23 | vs 1:7 255:5 | ways 25:2 64:12,21 |
| 114:3,9 120:3,8,10 | 158:19 | | 64:21 65:25 66:7,15 |
| 114.3,7 120.3,0,10 | | | |

[ways - zuckerberg's]

| 67:6,9 68:20 69:3,4 | word 21:2 57:11,13 | works 75:2 170:15 | Z |
|-------------------------------------|--------------------------|----------------------------------------------|--------------------------|
| 69:6 117:11 132:21 | 57:14 63:8,20 74:20 | world 31:24 57:3 | zone 58:23 174:18 |
| 133:16 220:9 | 75:12 157:18 | 69:13 104:6,19 | 176:18 177:5 |
| 225:15 | 164:24 165:3,7,9 | 117:14 152:2 | 212:16 213:7 |
| we've 18:5 38:15 | 166:11 172:14,16 | worth 41:19 141:7 | 226:16,19 229:11 |
| 88:20 107:3 148:3 | 173:3,21 178:4,5 | wrap 194:14 234:15 | 244:10,22,22 |
| 169:9,9 174:10 | 207:14 211:8,21 | 248:13 | 245:14 251:14 |
| 177:15 | 212:10,12 216:10 | write 134:25 | zones 177:2 |
| web 112:11 116:3,9 | 217:23 219:21 | writing 214:19 | zuckerberg 1:8 |
| 117:15,19 118:4,8 | 225:22 227:4 | written 18:15 40:23 | 15:11 16:5 17:18 |
| 118:17,19 168:12 | 228:25 233:18,21 | 41:3 214:14 216:12 | 18:13,22 19:5 32:15 |
| 172:24 173:19 | 234:3 243:23 | 239:8 240:4 241:5 | 32:19 52:4,14 53:7 |
| 192:7 | 247:24 | wrong 47:11 63:8 | 53:19 54:5 59:14 |
| webmail 118:2,23 | word's 172:23 | 107:10 121:17 | 80:3,6,10,16 81:3 |
| 119:5,10 121:3 | words 28:17 92:13 | 176:18,23 177:4 | 81:13 83:9 102:17 |
| 168:7,23 171:6,9 | 95:10 170:18 175:9 | 179:9,16 197:25 | 102:24 103:5 |
| 172:18 173:20 | 186:8 189:20 | 226:7 228:3,3 | 105:17 106:2,5,13 |
| weeks 177:10 | 219:21 226:15 | wrote 156:17 157:2 | 124:16,19 125:7 |
| 188:23,23 | 250:9 | 230:5 | 126:9 136:8 137:9 |
| went 24:5 26:2 35:7 | work 9:16 10:10 | X | 142:14 145:13 |
| 56:11 69:6 119:9 | 12:12 13:8,10 18:7 | x 1:5,11 254:2 | 146:3,17 147:12,14 |
| 151:6 154:21 163:2 | 18:23,25 33:20 34:6 | | 164:11,12,17,22 |
| 174:5 223:8 | 37:6 38:4 84:7 | y | 182:14,16 183:8 |
| western 1:3 108:3,4 | 105:6 114:25 115:2 | y 6:5 194:18 | 184:2 185:7 186:16 |
| 108:12,17 | 132:16 139:4 | yeah 61:19 76:13 | 187:7,16,21 188:12 |
| whatsoever 40:7 | 146:24 164:5,6 | 92:23 110:3 119:11 | 188:19 190:19,25 |
| 128:18 143:7 232:3 | 170:17 181:21 | 196:15 198:2 | 191:18,22,25 192:4 |
| whereof 253:20 | 182:22 183:15 | 215:24 236:22 | 192:8 199:14 203:6 |
| whichever 39:4 | 185:13 189:9,24 | year 77:20 106:10 | 205:15,15 206:4,8 |
| 207:14 | 190:5 191:5,12,17 | 175:6 251:16,25 | 206:14 212:13 |
| white 49:2 50:7,16 | 214:23 216:7 | years 22:12,14 25:4 53:19 74:24 78:12 | 225:24 231:10,16 |
| 51:5 | 217:11 221:18 | | 231:24 255:5 |
| willy 171:2 | 223:8 225:6,13 | 187:2,4 | zuckerberg's 32:12 |
| windows 218:5,9 | 234:6 235:2,6,11,11 | yesterday 6:21 york 1:3,19,20,22 | 33:5 41:25 42:4,13 |
| winklevoss 52:19,23 | 236:11,15 242:18 | 2:14,14 3:22 113:4 | 42:15,25 43:8 44:8 |
| wire 151:3,4,11 | 247:16 | 113:6,14,15,25 | 44:12,18 45:5 52:7 |
| witness 3:11 6:5 | worked 22:8,10,11 | 113.0,14,13,23 | 53:11 78:25 79:15 |
| 7:12 16:9 28:24 | 22:13 124:24 131:7 | 151:4 253:3,5,9 | 81:25 126:7 136:7 |
| 55:18 88:7 100:11 | 132:10 169:25 | 255:3,3 | 147:21 183:17 |
| 100:12 127:19 181:2 182:3 229:19 | 170:4,10 worker 230:4 | youtube 4:9,15,19 | 184:9 185:14 |
| | | 4:23 | 188:24 |
| 253:10,13,20 254:3 | working 9:23 141:9 | +.23 | |
| witnesses 9:7 | 147:7 178:19,23 | | |
| woman 151:25 | 230:19,23 233:13 | | |
| | | | |