	Page 1
1	
2	UNITED STATES DISTRICT COURT
3	WESTERN DISTRICT OF NEW YORK
4	No. 1:10-cv-00569-RJA
5	x
	PAUL D. CEGLIA,
6	
	Plaintiff,
7	
	vs.
8	
	MARK ELLIOT ZUCKERBERG,
9	Individually, and
	FACEBOOK, INC.,
10	Defendants.
11	x
12	A
13	
14	July 19, 2012
15	10:11 a.m.
16	
17	Videotaped deposition of MICHAEL
18	F. McGOWAN, held at the offices of Gibson,
19	Dunn & Crutcher LLP, 200 Park Avenue, New
2 0	York, New York, pursuant to notice, before
21	Cary N. Bigelow, Court Reporter, a Notary
22	Public of the State of New York.
23	
2 4	
25	

	Page 2
1	
2	APPEARANCES:
3	
4	BOLAND LEGAL, LLC
5	Attorneys for Plaintiff
6	1475 Warren Road
7	Unit 770724
8	Lakewood, Ohio 44107
9	BY: DEAN BOLAND, ESQ.
10	
11	GIBSON, DUNN & CRUTCHER LLP
12	Attorneys for Defendants
13	200 Park Avenue
14	New York, New York 10166-0193
15	BY: ALEXANDER H. SOUTHWELL, ESQ.
16	MATTHEW BENJAMIN, ESQ.
17	AMANDA AYCOCK, ESQ.
18	
19	
2 0	ALSO PRESENT:
21	VILAN TRUB, Videographer
22	
23	
2 4	
2 5	

L	

THE VIDEOGRAPHER: The attorneys will state their appearances.

MR. SOUTHWELL: Alexander Southwell from Gibson, Dunn for the defendants and Matthew Benjamin for the defendants.

MR. BOLAND: Dean Boland for the plaintiff, Paul Ceglia.

THE VIDEOGRAPHER: This is day 2, tape 1.

(The witness was sworn in.)

MR. SOUTHWELL: Mr. Boland, before we start, just one thing. I am going to continue my objection to the use of this videographer and the admissibility or preserve our objections to the admissibility of the videotape, and just to clarify, this is day 1 of the deposition of Mr. McGowan rather than day 2.

MR. BOLAND: Yes.

MR. SOUTHWELL: I also want to just formally request the opportunity to review, the witness to review the transcript under Rule 40 and want to also request that for Mr. Rose as well.

And at the deposition of Jerry Grant?

Q.

25

1		
7	_	

- 2
- Α.
- 3 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18 19
- 20
- 21
- 22
- 23
- 24 Α. 25
- All the information we relied upon in

- Now, I have some exhibits that I used 0. with Mr. Rose, and since I am going to talk about some of the similar ones with you, we left them here in the room or Mr. Benjamin brought them here to the room, so I'm going to go through those one at a time and we'll probably just call them Rose Exhibit whatever the number is and that will be consistent with yesterday's transcript.
 - Α. Okay.
- Can you tell me if all the information Q. you relied on in preparing your report in this case is actually listed in your report?
- All the information that we relied Α upon, all the opinions that we, that we reached and the bases of these opinions with respect to the Ceglia media, our examination of the Ceglia media are covered in our report, the Stroz report from March of 2012.
- So is the answer yes, all of the information you relied on in preparing your reports is listed in here?
- preparing the report is contained in the report,

_	
7	
_	

- 2
- Α. I do, yes.

list that training for me?

- 3
- What is that degree? 0.
- 4
- Α. I have a bachelor's from the University of Chicago in economics and statistics.
- 5 6

7

- And the training that you said you received beyond the EnCase certification, can you
- 8

9

- Α. Sure, I can give you a summary.
- 10 The courses are -- the specific courses

are listed in my CV, but I have attended

week-long training in topics in computer

- 11
- 12 periodically external training, generally
- 13
- 14 forensics, digital forensics as well as, as part

of my employment at Stroz Friedberg there is

forensics, mobile phones, forensics document

- 15
- 16 regular in-house training on topics in computer
- 17
- authentication and examinations, and so I have 18
- 19
- participated regularly in those as well.

employees teaching other Stroz Friedberg

- 20
- So in-house training is Stroz Friedberg 0.
- 21

22

- employees; fair to say?
- 23
- Generally, yes. Occasionally we have Α.

said, internal Stroz Friedberg employees.

- 24
- an outside speaker, but generally it's, as you
- 25

	Page 9
1	M. McGowan
2	Q. And what's the length of those training
3	sessions, typically?
4	A. About an hour.
5	Q. And how often do you have those?
6	A. Generally once every two weeks or so.
7	Q. Did you talk to anyone from the defense
8	attorneys' office about your deposition today
9	before coming here?
10	A. Yes.
11	Q. How many times did you speak with them?
12	A. I met with Mr. Southwell, Mr. Benjamin,
13	I believe that Ms. Aycock may have been present
14	as well, several times, I am not sure of the
15	exact number.
16	Q. When was the last time you met with any
17	of the lawyers for the defendants?
18	A. The last time I spoke with them briefly
19	was this morning before the deposition started.
20	Q. Did you speak to them yesterday after
21	Mr. Rose's deposition?
22	A. I spoke to Mr. Benjamin and Mr. Southwell
23	last night briefly in the evening time, I believe

that that was after Mr. Rose's deposition ended.

Briefly is how long?

Q.

24

25

1		
L	_	
	_	

5

6

7

8

9

10

11

12

13

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- A. It was, I'd say, between half an hour and an hour.
 - Q. Have you spoken to Mr. Rose since the conclusion of his deposition?
 - A. I have not spoken with him, I exchanged e-mails with him this morning on another matter.
 - Q. Did you exchange e-mails with him about his deposition yesterday?
 - A. No.
 - Q. Have you been provided a copy, either an audio or print form of his deposition testimony from yesterday?
- 14 A. I have not, no.
 - Q. Have you discussed with anyone the content of his deposition yesterday?
 - A. No, I haven't.
 - Q. Have you reviewed the transcript of any other witnesses who have already been deposed in this case?
 - A. Yes. I've reviewed the transcripts of the depositions of Mr. Grant -- portions of the transcripts of Mr. Grant and Mr. Broom, the deposition I attended in person as well.
 - Q. Now, the judge in this case has some

1	
-	_

M. McGowan

specific rules about the conduct of witnesses during depositions.

Do you know if the defense attorneys went over those with you or not?

- A. They mentioned there was a provision that we are not allowed -- I am not allowed to speak with them until the termination of the deposition except to discuss privilege objections.
 - Q. Fair enough.

I'm going to hand you what's been marked from yesterday Rose Exhibit 1, if you can just identify that for the record.

- A. Yes. It appears to be a printed copy of the report that Stroz Friedberg filed and submitted on March 26, 2012 related to our examination of the Ceglia media.
- Q. And how are you paid for your work in preparing that report?
- A. Stroz Friedberg is compensated for my work, we charge on an hourly rate, my hourly rate is currently \$550 an hour.
- Q. And how many hours would you estimate you put in to work on this case in any area prior to submitting that report?

	1490 12
1	M. McGowan
2	A. I don't have a we have timekeeping
3	records. I don't have a specific it would
4	probably be measured in weeks, not days, but I
5	don't know specifically how much time I spent.
6	Q. There's somebody at the office who
7	would know that?
8	A. We I keep my time in a timekeeping
9	system.
10	Q. So someone has access to all the time
11	and could do a calculation of
12	A. Of how much time I spent on this case,
13	yes.
14	Q. And the other individuals who
15	contributed to that report, their time is kept in
16	that system as well?
17	A. Yes.
18	Q. Let's just talk a ballpark.
19	Do you think it's a thousand hours you
20	spent or is it 10 working on the case?
21	I'm just trying to get some idea of how
22	much time was involved in your work on the
23	preparation of that report.

Between the two, I think it's measured

Α.

Sure.

24

25

•	1			
•	1	•		

M. McGowan

- in, I think, multiple weeks. I don't know. The work transpired over a series of months, so I don't know, when you add it all up necessarily what it would come to, so I'd say several, several weeks of effort is my best sense.
- Q. Can you identify or list for me the electronic evidence contained in the report that you personally reviewed or analyzed, whichever word you choose?
- A. Yes. I conducted searches of all of the Ceglia media that we had, that we acquired pursuant to the Electronic Asset Inspection Protocol. I did not personally conduct searches of some of the e-mail accounts that had been subsequently received through subpoena or consent, but I supervised that work.
- Q. Who did analyze the e-mail accounts that you didn't personally conduct searches of?
- A. Mr. Novak, Mr. Jason Novak primarily performed that work.
- Q. Is there any part of the report that you feel like you wouldn't be able to answer questions about because you were not in any way involved in that portion of the analysis?

	Tage 11
1	M. McGowan
2	A. I don't believe so. I'll let you know
3	if any of the specific questions come up that go
4	beyond my personal experience, but, no, I am
5	familiar with the analyses discussed here.
6	Q. Do you know how much Stroz Friedberg
7	was paid in total for the all the work that was
8	done from the time they were hired in this case
9	to today?
10	A. I don't, I generally don't see the
11	invoices.
12	Q. Would somebody at Stroz Friedberg know
13	that answer?
14	A. Yes.
15	Q. And who would that person be?
16	A. We have an accounting system that keeps
17	track of what we charge our clients, so I believe
18	that our accounting staff could query that if
19	requested.
20	Q. I am going to sort of leave a line
21	there in the deposition and ask that you work
22	with Mr. Southwell and provide that information,
23	and we asked Mr. Rose for it as well.
24	TO BE FURNISHED:
25	

1	
2	Ç
3	repor
4	A
5	porti
6	Ç
7	A
8	Ç
9	A
10	recol
11	went
12	those
13	Ç
14	concl
15	A
16	Ç
17	exami
18	
19	offer
20	case
21	2

- Q. When was the last time you read your report, Rose Exhibit 1, in front of you?
 - A. The last time I read it -- I read ortions of it last night.
 - Q. Just portions last night?
 - A. Yes.
 - Q. What portions do you recall?
- A. Primarily the -- just refreshing my recollection on the evidence considered, just went over my CV again in preparation for this, those are the portions I looked at last night.
- Q. And do you still agree with all the conclusions that are in that report today?
 - A. I do, yes.
- Q. Now, you are not a certified fraud examiner, we established that.
- Do you feel that you are qualified to offer an opinion on whether fraud occurred in a case anyhow?
- A. I am qualified to the extent it deals with digital forensic media.
- Q. Is there a part of your EnCase certification which supports that statement you just made, that you are qualified to talk about

22

23

24

25

1
_

M. McGowan

2 | whether fraud occurred?

MR. SOUTHWELL: I will object to the mischaracterization.

MR. BOLAND: I can reword it.

Q. Is there any part of your EnCase certification which qualifies you to draw a conclusion of fraud from your computer forensics analysis?

MR. SOUTHWELL: Same objection.

A. Could you repeat the question? I lost the train.

(Record read.)

- A. Yes. Both my EnCase certification and another experience I have I dealt with analyses of computers, including those where there's commenting on user action, including deletions, forgeries, issues concerning fraud, so I would say that both my EnCase certification as well as my, just my broader experience and training, these are issues that come up often and I do feel I am qualified to speak to them.
- Q. Was there a portion of your EnCase certification where they taught you how to define fraud?

	Page 17
1	M. McGowan
2	A. The certification itself
3	Q. The classes you took to obtain the
4	certification, did they teach you in those
5	classes how to define fraud?
6	A. I don't recall a specific component
7	dedicated to a definition of fraud. Certainly
8	there were topics that dealt with types of
9	fraudulent activity when they occur on computers.
10	Q. Can you define fraud, please?
11	MR. SOUTHWELL: You are asking him for
12	a common-sense definition or are you asking
13	him for
14	MR. BOLAND: I'm just asking his
15	definition. He has made a conclusion in his
16	report that fraud occurred here.
17	Q. Define fraud.
18	MR. SOUTHWELL: I'll object, that's not
19	the conclusion he drew.
20	Sorry, I will let you ask the question.
21	A. The definition of fraud, in my words,
22	fraud can take many forms, both through the use
23	of computers and otherwise, but fraud generally,
24	as I see it, deals with intentional actions by an

individual or a corporation to --

25

1		
J	L	

2

Q. Do you want to take a break so you can think it through and answer?

3 4

That's fine.

5

6

7

8

9

10

11 12

13

14

15 16

17

18

19 20

22

23

21

24

25

MR. SOUTHWELL: He was still answering. There was a big long pause MR. BOLAND:

there, so --

I was just trying to word it precisely. Α.

So actions by a user corporation entity to perpetrate crime or other bad acts, for lack of a better term; examples are, there's fraudulent financial transactions, disguising information, deleting information, there's a number of forms of fraud.

- Is every deletion of a file by a Q. computer user fraud?
- Α. No, not every deletion of a file by a computer user is fraud.
- In your opinion, if a person captures Q. an image and fixes an image of their family and fixes the red eye that's in the image, is that a forgery?
- Α. It may depend on the context. might be circumstances where it depends where it is being represented at, but no, in a general

•	1			
•	1	•		

M. McGowan

- sense, if someone has a personal image and chooses to fix the red eye I would not consider that, I would not consider that fraud.
- Q. And what's the fraud triangle, if you know?
- A. Fraud triangle, it's a term I have heard most often used with respect to financial fraud in terms of some of the factors that go into the commission of the fraud, but I'm not sure I could define all of them, all of them sitting here, it's been a bit of time since I have last seen, last reviewed the fraud triangle.
- Q. And you are aware that the defendants in this case are claiming that Mr. Ceglia has prepared a paper, two-page paper contract which is a fraud? You are aware of that claim by the defendants?
 - A. Yes, I'm aware of that claim.
- Q. And you are also aware that the defendants claim that some e-mail exchanges that Mr. Ceglia had with Mr. Zuckerberg are also frauds?
 - A. Yes, I'm aware of that claim.
- Q. So can you tell me what the elements

	Page 20
1	M. McGowan
2	are of fraud?
3	MR. SOUTHWELL: I object to the form of
4	the question.
5	Q. You used the word "fraudulent"
6	throughout the report.
7	MR. SOUTHWELL: Objection.
8	Q. Is it true that you use the word
9	"fraudulent" in your report?
10	A. I believe so.
11	Q. What do you mean by fraudulent?
12	What are the elements of proving
13	fraudulent which you are convinced occurred in
14	this case, obviously, by what you put in your
15	report?
16	A. I think in the report we are anchoring
17	it to specific instances of where we saw, for
18	example, backdating of files, where we would see
19	metadata anomalies in files, where we saw
20	formatting inconsistencies that pointed to the
21	manual generation of e-mail messages, those were
22	the elements, those were the instances which I
23	believe we were discussing specifically in our

Is it your opinion that all metadata

24

25

report.

Q.

٩	1	
_	L	

M. McGowan

2 anomalies establish fraud?

- A. No, it's not my opinion that all metadata anomalies establish fraud, some may be innocuous, some may be evidence of intentional user activity.
- Q. And when you say intentional user activity, you are talking about motive, right, the motive to have created the anomaly?
 - A. In that case, yes.
- Q. How about formatting inconsistencies in a document?

If I just showed you a document, didn't tell you anything else about it, and something looked to you that there was formatting inconsistencies between page 1 and page 2, is that alone sufficient for you to conclude as an expert that that document was constructed with fraudulent intent?

A. That alone, no. Generally, in formulating our expert opinion we are looking at the cumulative evidence in front of us. That alone, I think I'd have to know more about the circumstances of the document it was proffered for to be able to determine whether or not those

•		
•	_	

M. McGowan

formatting inconsistencies were significant or not.

Q. Are you aware that Mr. Ceglia has presented a two-page paper contract in this case and the defendants' paper experts have evaluated that contract?

A. Yes, I'm aware of that much. I didn't participate in those inspections, but I'm aware that a contract, a paper copy of a contract was examined.

Q. And you examined the e-mail exchanges between Mr. Ceglia and Mr. Zuckerberg that he has also presented in this case as an attachment to some pleadings?

A. Yes. I have examined Word documents that contained excerpts of e-mail exchanges.

Q. Do you know if Mr. Ceglia offered his parents' computer as evidence in this case so far, if you know?

A. The materials we examined were the ones that Mr. Ceglia presented for inspection starting on July 15th. I'm aware that subsequent to that there were comments that one of the computers -- I'm aware that one -- of two pieces of media, a

1	
Τ	

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

hard drive and forensic image, that Mr. Ceglia has made claims that those come from a computer used by his parents.

Q. Well, my question is -- well, those computers were produced pursuant to a court order.

Are you aware of that?

A. Yes, I am aware they were produced pursuant to court order.

Let me clarify. I said computer -- you said computers in your question and I said it in my answer. Strictly speaking, it was a hard drive and a forensic image of it. I am not aware of the computer itself having been produced.

- Q. It was a Seagate hard drive; right?
- A. Yes, the hard drive itself was a Seagate hard drive.
- Q. And then the forensic image of that hard drive was on a Western Digital Mr. Rose had told us yesterday.

You will agree with that?

- A. Yes, it was.
- Q. So to determine fraudulent in your report you would agree with me that you have to

1		
J	_	

M. McGowan

determine the person's intent for the action they took regarding the evidence?

MR. BOLAND: I'm going to object to the shaking of the head of defense counsel which is occurring right now, I interpret that as an attempt to signal the witness how to answer and I would appreciate it if you would not nod up or down or left to right, okay?

It's quite obvious that you are shaking your head yes and no in response to certain questions I'm offering and I think that's a potential to signal the witness.

MR. SOUTHWELL: We hear you, Mr.

Boland. It's not intended to signal the witness, Mr. Benjamin and I are communicating about a number of things, but I understand your point and we will ensure that there is no signaling of the witness, which there hasn't been.

MR. BOLAND: Very well.

- A. Could we repeat the question?
- Q. Sure.

MR. BOLAND: Read it back, please.

	Page 25
1	M. McGowan
2	(Record read.)
3	A. Is there a specific area that we're
4	talking about here?
5	Q. That's just that question.
6	A. One of the components yes, intent
7	would be related to, would be a component of
8	fraudulent activity.
9	Q. What are the other components?
10	A. I don't know if I have an exhaustive
11	list, but so far the establishment of just
12	identifying the anomaly itself, the anomaly being
13	the fact in the report, so the identification of
14	it, an evaluation of how it may occur and I think
15	intent, whether this was likely to be an action
16	taking the evidence together performed by an
17	individual, that would be one of the primary
18	components, yes.
19	Q. So I heard you list motive as a factor
20	in using the word "fraudulent"; correct?
21	A. Did I? I don't know if I
22	Q. You can correct me.
23	Is motive part of a consideration?

Before you used the term "fraudulent" in your

report.

24

25

18

19

20

21

22

23

24

25

M. McGowan

- A. Motive would be a component of fraudulent, yes.
- Q. And then you said, and you can correct me if I am wrong, that how the anomaly or whatever may have occurred is a component of determining whether it's fraudulent.
 - A. Correct.
 - Q. And then you said intent.
- A. Yes.
 - Q. Would you agree with me that intent and motive are synonymous terms?
 - A. I believe so.
- Q. So we have two factors that underlie the use of the word "fraudulent" in the report.
- Motive and how it may have occurred, let's talk about that.
- You acknowledged earlier that every deletion is not necessarily fraudulent; correct?
- A. Correct, we discussed that there are innocuous deletions and there are intentional deletions that may be fraudulent.
- Q. But if you just have a deletion and you don't know the person's intent you can't conclude it's fraudulent; true?

1		
L	_	
	_	

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- A. If you don't have a deletion --
 - Q. If you have a deletion, but you don't know the person's intent why they deleted that file, you can't conclude fraudulent?
 - A. If you do not know or you cannot discern or infer, yeah.
 - Q. Are you aware that expert witnesses are required to answer hypothetical questions, unlike regular witnesses?
 - A. I am aware of that, yes.
 - Q. Okay. So let's try one.

The two-page paper document that the other paper experts analyzed, let's assume that all the paper experts who analyzed it found the two-page paper document to be authentic, it's an authentic contract between the parties, okay, assume that.

- A. Okay.
- Q. You'd agree with me there can't possibly be any fraudulent intent regarding anything you found on Mr. Ceglia's media because the two-page paper contract is authentic, he doesn't need to commit fraud.

Would you agree with that statement?

1	1	
L	L	

So the two-page paper document -- so

At this point, in this case we're

2

MR. SOUTHWELL: Object to the form.

3

Α.

4 what we are referring to as the Work For Hire

5

document is authentic in this hypothetical -- I

6

guess I'm not sure how to answer that.

7

assuming -- you are asking me to assume the

9

opposite of our findings that the digital, the

10

forensic evidence surrounding the Work For Hire

11

document, that there are multiple versions of it,

12

that there are metadata anomalies with it, that

13

there is an alternate version of it, all of these

14

things that we found in the forensic investigation,

15

so it seems like -- it seems more like

16

counterfactual than hypothetical at this point.

17

Q. I think all hypotheticals can be counterfactual. It's a hypothetical and you need

18 19

to answer the question.

20

Assume the two-page document is

2122

Isn't it true that Mr. Ceglia has no

23

motive to commit fraud? He has an authentic

24

contract with Mark Zuckerberg, assume that, this

25

authentic.

	4		
	ı		
	ı		
•	۰		

2 3

Wouldn't you agree he has got no motive to commit fraud on his computer at that point; true?

MR. SOUTHWELL: Objection, asked and answered.

A. I'm not sure that's the case. I don't know -- even if the paper document is authentic in this hypothetical, I don't know what other reason someone could have for deciding to -- they wanted more proof, that they wanted -- whether they would still give rise to occasions to manipulate a forged electronic document.

Q. So is it your testimony that it's still possible for your report to be accurate in your claim of Mr. Ceglia's fraudulent behavior even if he had an authentic paper contract with Mr. Zuckerberg?

A. Is it possible for -- even if he had an authentic paper copy, I think that goes direct opposition to our conclusion.

What I was addressing was that even if there were an authentic copy of the paper, of the contract, and we don't know, in this case we're assuming it for this hypothetical, there could

M. McGowan

still be, there could still give rise to reasons why someone may want to fabricate electronic evidence, some of the things we discussed in our report, for example, the purported e-mails.

The two things we looked at was the contract authentic and were the purported e-mails that were provided as supporting evidence, so I could still see reasons why even if the authentic -- even if the paper document that Mr. Ceglia submitted were authentic, and we are assuming it here, assuming it in this hypothetical, I could still see reasons where someone may want to -- may choose to fabricate, for example, the purported e-mails as further supporting evidence.

- Q. You are not offering any opinion about the authenticity of the paper contract in your report or even today?
- A. Correct. I have not examined any of the paper documents. My opinions are opinions on, as discussed in the report, concern the fact that the StreetFax -- the Work For Hire document and the purported e-mails both appear, there's evidence that both of them have been fabricated, so I'm not offering any direct opinion on -- I

1	ı
_	L

M. McGowan

haven't examined the paper document.

I would say that there's an inference which is if the electronic document is -- if the electronic evidence points to the contract being a forgery, then that does bear on the paper evidence to some extent, but I haven't examined it directly.

- Q. And would you agree the inference goes the other way as well, that if the paper contract is determined to be authentic it seems to implicate that the electronic StreetFax contract would be a fraud?
- A. I think with the electronic evidence there also are the other fact -- there are the other -- there's more evidence than just the four corners of the piece of paper, there are the contemporaneous e-mails, there are other copies, so I think that that would still need to be considered as well regarding the authenticity of the electronic documents.
 - Q. I'm just asking about the inference.

You said before there's an inference that since you've determined the two TIFF images that make up the StreetFax contract are

1
Т

M. McGowan

authentic, that sort of implicates that the paper document is probably a fraud, fair to say, that's the inference that you can draw from that was your testimony?

- A. There is an inference that that could be drawn.
- Q. And if it turns out that the paper contract is authentic, the hypothetical, you could draw the opposite inference that the StreetFax contract is potentially fraudulent?
- A. Just to be clear, that would not address -- I would see that prong not addressing the purported e-mails, I think those would be properly separate items and I think if the paper document were authentic, were determined to be authentic, and we're just assuming it were for this hypothetical, I think that would be a factor in assessing the -- in assessing the electronic evidence; however, I think that that would still be necessary to evaluate the electronic evidence on its own accord, whether it -- whether it showed signs of authenticity, inauthenticity, are there competing alternate versions, are there contemporaneous references, are there independent

1		
-	-	

M. McGowan

2 verification.

I think that we are talking about two different -- we are talking about two disciplines here and I think they are both, they are both valid and both important areas of examination.

- Q. In your opinion, what's an easier forgery to create, a two-page paper document with both printing from a computer and handwriting from ink or the forgery of a TIFF image?
- A. I don't have enough experience, I don't profess to be a paper document examiner, I don't think I have enough opinion to know what goes into the difficulty or ease of forging a paper document, so I don't know if I could properly compare the two.
- Q. Just from your personal experience do you have -- have you ever tried to write someone else's signature at any point in your life just for fun?
 - A. Yes.
- Q. So you don't have any opinion on whether it's easier to forge a TIFF image, a digital image, or forge a two-page paper contract with handwritten signatures that mimic other

1	
-	_

M. McGowan

2 people?

A. I think that there's -- I am aware of the factors that go into -- these are areas where there's both -- there are expert scientific disciplines.

I could give you some of the factors that go into a digital authentication, which are more than what a layperson may know, and I imagine the same is true for handwriting, that while, sort of as a kid you can play trying to --whether friends trying to copy each other's signatures, but I'm aware that there are other factors that are taken into account in terms of paper, ink, but I couldn't -- I don't think I could do it justice, I don't know enough of them to know, to be able to offer a, what I feel to be a fair comparison between the two.

- Q. If I showed you a photograph of a cover of a magazine that came out yesterday, Sports Illustrated, and it had a big photograph of some sporting event occurring, would be willing to testify then that in your opinion that photograph has been unaltered just by looking at it?
 - A. Just by looking at it, no.

4		
ı	L	
	_	

3

4

5

6

7

8

9

10

11

12

13

14

15

16

M. McGowan

- Q. Are you a digital imaging expert, have you ever been qualified as that?
- A. I am not sure exactly what you mean by digital imaging expert.

I've examined in my forensic work digital image files, their content and metadata.

- Q. Do you feel qualified that if you were shown an array of digital images you could pick out which ones were originals and which ones were manipulated somehow just by looking at them?
 - A. Just by looking at them, no.
- Q. Now, the StreetFax contract is comprised of two TIFF images; correct?
- A. Yes.
 - Q. TIFF is a common digital image format?
- 17 A. TIFF is a common digital file format, 18 yes.
- Q. And a couple of others are JPEG?
- 20 A. Yes.
- Q. And GIF or GIF as it is pronounced sometimes, G-I-F?
- A. That's right.
- Q. And there's probably a few others not as widely used; true?

٠	1		
	_	-	

2

That's fair. Α.

3 4

5 Α.

6

7

8

9

- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 20

19

- 21
- 22
- 23
- 24
- 25

- Are you aware of the capabilities of a 0. program called Photoshop?
- I'm aware of some of the capabilities, Photoshop being a program that can -- it can be used for photo editing, resizing, touching up or manipulating an image, for example, that Sports Illustrated image that you referred to probably there was enhancement of it through Photoshop or a similar tool before it appeared on the cover.
- And the use of Photoshop in your Q. experience analyzing digital images as you said you have, can it be used in a way that doesn't leave traces behind of the thing that was manipulated, visual traces?
- Α. It's possible to alter an image using a tool such as Photoshop such that it doesn't leave traces.

There's further analysis that can be done looking at the content of the file, the structure of the bit map or image to try and detect whether there are -- whether such things have occurred, but it's possible to do it such that a person viewing it may not detect a -- may

1		
1	_	

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

not detect that it has been altered.

- Q. And isn't it the case that virtually every magazine cover out there these days, those images have been altered? They don't just shoot them and put them right up there like they are unretouched, wouldn't you agree with that?
- A. I don't know if I have any expert opinion on that, but my understanding from reading the newspaper and articles periodically is that yes, the images that appear in magazines are enhanced before putting on the cover.
- Q. And Photoshop can edit TIFF images as well?
 - A. Photoshop can edit TIFF images, yes.
- Q. And Photoshop is not the only image-editing software available to the consumer?
- A. Correct. There's an open-source version GIMP, there's others as well.
 - Q. Corel has one; are you aware of that?
- A. I don't recall its name offhand, but I believe, yes.
- Q. And so the two TIFF images which make up the StreetFax report, let's talk about those.

 Did you read Mr. Broom's report where

1		
_	-	

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

22

23

- 2 he discussed the measurements of those two 3 images?
 - Α. Yes, I did read the portions of Mr. Broom's report where he discusses the size of the images in pixels.
 - Did you read the portion where he Q. converted pixels using a formula into physical inches in a length and width, a measurement -confirming the measurement of those two TIFF images, their physical size?
 - Α. Yes, I read the portion where he discusses -- he uses the dots per inch of the image and goes through a calculation and arrives at a measurement in inches.
 - And did you repeat his calculation using those numbers that were in his report?
 - I did, yes. Α.
 - And what did you come up with? Q.
- For that calculation, the numbers he Α. 21 reports are accurate.
 - Q. Now, the two TIFF images are the image of what? Two pieces of paper, would you say?
- 24 Α. Yes. The TIFF image, each image 25 appears to be an image of a scanned, one-piece

7		
ı		
	-	

M. McGowan

document, one-page document.

- Q. And what's your opinion, based on reading what Mr. Broom had calculated and you confirmed his calculations, what's your opinion as to the physical size of the pieces of paper that were used that were imaged to create those scanned now TIFF files that you found?
- A. So I should specify that Mr. Broom's calculations dealt with the size of the TIFF file itself, they didn't speak to the -- the size of the TIFF file is not necessarily tied to the size of the original; for example, in scanning a document one can choose to reduce it in size in the scanning process or subsequently, after the scanning, to reduce the size of the image, so I don't believe that Mr. Broom's calculations speak to that. In my opinion, it appears that the -- it appears most consistent that the scans were of ordinary size pieces of paper.
- Q. You just mentioned two ways that the TIFF image cannot necessarily be tied to, let's call it the source piece of paper that was used to scan in.
- 25 A. Okay.

1		
L	_	

M. McGowan

- 2
- Q. And one of them was the scanner could be set to reduce the size of the resulting TIFF image; true?
- 5

4

- A. That's right, yes.
- 6

7

8

- Q. Did you find any evidence that that happened here, computer evidence of a scanner being set to reduce the size of the resulting TIFF image?
- 9

10

There was no evidence in your report regarding that, was there?

11 12

13

14

A. There was no evidence in the report, we did not -- we did not see evidence concerning the scanner, what scanner was used or its settings.

15

Q. Actually, there is no evidence that it was actually scanned, was it?

17

18

19

20

16

A. There is evidence that it was scanned. I think the file names, most primarily -- the fact that the file names are Scan0001 and 2, the file names are indicative, the file names, the appearance of the document also are indicative that it -- of a scanned document.

2122

23

24

Q. So this use of the scanned file name is a default file name that a scanner would produce?

25

A. It's a -- it's typical of a file name a

•	1			
•	1	•		

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

2 scanner would produce. I believe that we've
3 identified other files on Mr. Ceglia's media with
4 similar names.

- Q. Are those in your report?
- A. Those specific files aren't referenced in our report, they were among the materials that would have been provided to counsel for review.
- Q. But you didn't note those in your report?
- A. We did not note those other files in the report, correct.
- Q. And the other one you talked about was an image being created, whatever method, in the correct size, 8-1/2 by 11, and then somehow being manipulated by software afterwards, right, that's another way that you could have created these TIFF images but used an 8-1/2-by-11 piece of paper?
- A. You could have -- you could have scanned it in and then in the process of saving the TIFF file chosen to save it to a smaller size.
- Q. And there is no evidence in your report that happened either; true?
 - A. There's no evidence -- there's no

1
Т

M. McGowan

evidence one way or another in terms of how the scan, how the scan was scanned in.

Q. And would you agree with Mr. Rose that there's not even any evidence that this file was necessarily scanned onto this hard drive originally, that it was most likely created on this hard drive, placed onto this hard drive after being created in another location?

MR. SOUTHWELL: Object to the form, calls for speculation.

- Q. If Mr. Rose said that would you agree with that?
- A. Which part was the question and which part was what Mr. Rose said?
- Q. Is it your opinion that these two TIFF images were scanned directly onto this computer where they were found, onto the Seagate hard drive where they were found?
- A. It's my opinion that the TIFF image were either scanned directly onto this computer or copied, copied from another source; I don't think the forensic evidence is sufficient to rule one or the other in or out.
 - Q. What's the evidence that they were

•	١		
-	_		

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

21

M. McGowan

scanned directly to the Seagate hard drive? Give me evidence for that that you have.

- A. We see evidence of the files on the Seagate hard drive, we see their creation on the morning of July -- excuse me, March 3rd, 2004, shortly before they are e-mailed, so those are the primary pieces of evidence that I can point to for the direct scanning onto the computer.
- Q. Hold on a second.

There's multiple ways a file can get onto a computer, onto this Seagate hard drive; true?

- A. There are multiple ways a file can get onto a hard drive, yes.
- Q. Copy from a floppy disk, years ago, when those were common?
 - A. That's one way.
- Q. Copy from a CD, transfer from a CD onto the hard drive?
 - A. Yes.
- Q. Transfer from a USB device onto the hard drive?
- 24 A. Yes.
- 25 Q. Transfer from the Internet onto the

	1
	2
	3
	4
	5
	6
	7
	8
	9
1	0
1	1
1	2
1	3
1	4
1	5
1	6
1	7
1	8
1	9
2	0
2	1
2	2

24

25

- hard drive?
 - A. That's a possibility.
- Q. Transfer from another hard drive onto this hard drive?
 - A. Another internal hard drive or --
- Q. Doesn't matter, either way, external or internal, take your pick, that's another way to get a file onto this hard drive?
- A. We have not examined the -- I haven't seen the computer itself, so I don't know whether it was capable of having another hard drive connected to it for an internal hard drive transfer.
- Q. But hard drives and computers allow that to happen?
- A. In general, yes, but I can't tell specifically for the hard drive, the Seagate hard drive it was in without having a chance to examine it further.
- Q. So the fact that a file was created on a Seagate hard drive doesn't tell you anything about which one of those ways were the ways it got created on that hard drive; isn't that true?
 - A. The fact that a file was created on the

_		
٦		
ш	L	
-	-	

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

hard drive, correct, that fact alone does not tell us how the file came to reside on the hard drive.

I don't know if I said one of those ways. There are other ways, of course, there is the scanning directly onto the computer.

Q. True.

And one other way is a person using a program like GoToMyPC can get remote access to a computer and place files onto the computer using some software like that?

- A. Yes, in that manner, in that method you would have to have additional software installed on the computer; I didn't see any evidence of that in my examination of the Seagate hard drive.
- Q. There was no GoToMyPC program installed on the Seagate hard drive?
 - A. I did not note any program.
- Q. In reading Mr. Broom's report, though -- well, actually, you didn't do a virus scan of any of this media in preparing your report; correct?
- A. In preparing our report, no, we did not conduct a virus scan of the Ceglia media.

1		
1	•	

- Q. Have you done one since preparing your report?
- A. I have, yes.
 - Q. And did you do it after Mr. Broom's report was provided to you?
 - A. We did, yes.
 - Q. And do you dispute any of his findings as to what types of malware he says in his report he found on the media? Do you disagree with him about that list of malware he claims to have found?
 - A. So the list that he provides in the report itself is a partial listing, but I do not dispute that those files were -- those files were present on the Seagate hard drive and that a virus scan would have -- a virus scan using the programs he identified would have identified them.
 - Q. When you say it's a partial list, did you find even more malware than he found?
 - A. There are more -- yes, running the utilities that Mr. Broom identified there would be more malware files than just the listing that he provided in his report. Some of these are

1	M. McGowan
2	malware files that have been captured and
3	quarantined by the antivirus programs on the hard
4	drive, but yes, we did identify a longer list
5	than was included in Mr. Broom's report.
6	Q. When you say we, who specifically did
7	the virus scan you're talking about?
8	A. I performed I performed the virus
9	scan, I was aided in my analysis by one of my
10	colleagues.
11	Q. Who?
12	A. Jodi Forness.
13	Q. How do you spell the last name?
14	A. F-o-r-n-e-s-s.
15	Q. And that person's CV is not attached to
16	your report; correct?
17	A. That person's CV is not attached to the
18	report. She has signed the protective order.
19	Q. And the only two people who signed the
20	report are you and Mr. Rose; true?
21	A. Yes, the only two people that signed
22	the report are Mr. Rose and me.
23	Q. But there are more people than that who

worked on some portion of the Ceglia media, as

you call it?

24

25

_	

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- A. There are more people that have

 examined the Ceglia media in one way or another

 under my supervision, yes.
 - Q. Who was the supervisor for the production of this report? You?
 - A. I supervised the forensic -- I performed much of the forensic analysis myself. To the extent I didn't, the digital forensics analysis using the forensic software, Mr. Rose was -- supervised the analysis, the day-to-day involvement, he himself was not sitting at the keyboard using the EnCase software, for example.
 - Q. And that's because he is not certified to use EnCase, is he?
 - A. That's he -- I don't believe he has that certification, no.
 - Q. Does he have any certification to use any forensic software?
 - A. I don't believe that -- I'm not aware of any certifications that Mr. Rose has that deal with the operation of forensic software.
 - Q. So he's not qualified to do the types of forensic analysis that you are?
 - A. He's not -- he is not proficient in

4		
	L	
_	_	

- performing the technical analysis using the software itself to perform the technical analysis of the hard drive. He has much experience in digital forensic matters, but at a -- but at a higher level.
- Q. Now getting back to the malware on the computer, you would agree with me that things like rootkits allow individuals to access computers?
- A. You said getting back to this computer.

 Are we talking about this computer or in general?
- Q. Rootkits allow people to access computers if they are installed on a computer?
 - A. In general? Are you asking in general?
- Q. I am asking the question, do rootkits allow individuals to access computers?
 - A. No.
- Q. What are they for?
 - A. Rootkits, the function of the rootkit, rootkits allow -- the primary function of a rootkit is to, in basic terms, hide the presence of other files. For example, one of the publicized ones was the Sony -- Sony used one in

1		
L	L	

M. McGowan

connection with its digital rights management where Sony had programs running, when you used Sony CDs you had programs running that would control your usage of the CDs and they included a rootkit to hide the existence of those programs so that if you looked at your computer and didn't perform a forensic analysis you wouldn't know that they were present, so that's the function of rootkits.

- Q. Do individuals have the ability to remotely access computers without the authorization of that computer's owner? Does that ability exist in the world?
 - A. Does the ability exist?

Yes, it's the -- there are ways of accessing it using GoToMyPC, authenticating, those are what generally -- accessing it using remote desktop, those are ways that generally would be an authorized access. In theory, or not in theory, there are ways of essentially breaking into a computer as well.

Q. And you are aware -- you keep up on not only computer forensics articles in your field but even articles in the popular media about

_	

- various government agencies, for example, who have their computer systems accessed in an unauthorized way?
- A. I am aware, yes, that there are -there have been articles reported in the media
 about government systems being unauthorized,
 accessed unauthorized.
- Q. And in your opinion will there ever be a computer system that will be completely prevented from anyone getting unauthorized access?
- A. A computer disconnected from the Internet, for example, sitting alone in a room would not allow someone to remotely access it.
- Q. How about a computer connected to the Internet or a computer system connected to the Internet, is there any way to fortify that system, do you think there'll ever be a way to fortify that system that nobody can gain unauthorized access to it?
- A. There are ways to fortify it; however, at the end of the day, humans are imperfect, code is complex and I think fortifying it such that it is invulnerable is not achievable.

1		
L	_	

7

8

9

10

11

12

14

19

20

21

22

23

24

25

- Q. And for someone to get unauthorized
 access to a computer they would have to load some
 files onto that computer to enable that access;
 would you agree with that?
 - A. Could you say that one more time?
 - Q. For someone to get unauthorized access, remote access to a computer, they are going to have to load some type of files on there to enable them to get in?
 - A. I'm not sure that's the only way.
 - Q. Is that one way?
- 13 A. It is one way, yes.
 - Q. And could a rootkit hide those files?
- A. Hide from whom, are we talking?
- Q. Just hide them so nobody but the person who put the files there knows that they are there.
 - A. In my experience, no, that's not generally -- rootkits would generally hide them from the point of view of the user that is sitting there at the computer.
 - However, in my experience doing a forensic examination, looking -- or not necessarily a forensics examination, but using

1	M. McGowan
2	utilities oftentimes you could still see those
3	files being present even if a rootkit was being
4	employed to cloak them from the user's
5	perspective.
6	Q. And that's my question, can a rootkit
7	be used to cloak those files from a user?
8	A. Yes, a rootkit can be employed to cloak
9	files from a user.
10	Q. And tell me if you agree with this
11	statement, that rootkits can crack passwords at
12	the administrative level. Is that true?
13	Or do you agree with that, let me ask
14	that question.
15	A. No, I don't, I don't agree with that.
16	Q. Can rootkits disable auditing or edit
17	event logs, would you agree with that?
18	Let me say it this way: Would you
19	agree with the statement that a rootkit can
20	disable auditing or edit event logs?
21	A. No, I wouldn't agree with that
22	statement.
23	Q. Would you agree with the statement that
24	rootkits can spread as a self-propagating

mechanism?

25

•	•		
_	L		

- A. No. Again, I described what rootkits are; they by themselves can't do that either.
- Q. And where did you learn about rootkits?

 Did you learn about rootkits in your

 EnCase certification classes?
- A. Not in my EnCase certification classes, other training that I had taken on computer forensics, among other places, and I've also read about them and done research.
- Q. The training that you've taken specifically involving rootkits was that in-house training or not in-house training?
- A. Both. Some of the external training, I think there are several -- for example, there is a SANS course offered by SANS that's listed in my CV that discussed hacker techniques, that was one of the places that I received training on rootkits.
- Q. When you took your EnCase training, it's true it was a series of classes and there was some sort of proficiency testing at the end of the classes; is that true?
- A. Strictly speaking, it was one course, one required course and then a written exam and practical exam at the end of it, yeah.

			Page 55
1		M. McGowan	
2	Q.	So two exams, a written exam	and a
3	practical	exam?	
4	A .	Yes.	
5	Q.	And did you pass the written	exam the
6	first time	?	
7	Α.	I did, yes.	
8	Q.	And the practical exam as wel	1?
9	Α.	I did.	
10	Q.	And how many hours of training	ng
11	specifical	ly on Microsoft Word have you	had?
12	Α.	By training here what are you	looking
13	for?		
14	Q.	In-house training or non-in-h	nouse
15	training f	rom someone teaching you abou	ıt
16	Microsoft	Word?	
17	A .	The usage of word processing	or
18	forensic e	xamination or	
19	Q.	Let's break it up.	
20		Training you've had in-house	or not
21	in-house a	bout how to use Microsoft Wor	d, like a
22	typical us	er, have you had any training	, like
23	that, and	how many hours?	

college it came up, but I have not -- I use Word

I'm sure somewhere in high school and

Α.

24

25

1		
L	_	

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

regularly, I -- but I don't consider myself

proficient at using it. I haven't had any

training, official training while employed by

Stroz on the usage of Microsoft Word as a word

processing program.

- Q. And how many hours of training have you had regarding Microsoft Word from a computer forensics standpoint?
 - A. I'm not sure of the exact count.

Microsoft Word, the analysis of its documents, metadata, that's a topic that has come up in several training courses I have taken, it's also a topic I've conducted research in testing, read articles myself in addition to the training that I have taken.

- Q. About how many hours would you say that is of training you've had total on computer forensics issues related to Microsoft Word?
- A. I don't -- it's not a way I've categorized it, so I am not sure I could give you, I'm not sure I could tell you how many hours specifically on Microsoft Word.
 - Q. Is it one hour?
- A. I don't know.

	Page 57
1	M. McGowan
2	Q. Do you have any idea?
3	A. It's a topic that again, it's a
4	topic, Microsoft Word documents are a common type
5	to examine, so it has come up considerably, I
6	just don't it's not a way I've kept track of
7	the time, so I can't give you a more detailed
8	answer.
9	Q. If you could take a look at what's been
10	marked Rose Exhibit 2, page 12, that's
11	Mr. Broom's report for the plaintiff.
12	MR. SOUTHWELL: Page 12 on the top?
13	MR. BOLAND: Yes.
14	Q. And I'm using the numbers, unless I
15	tell you otherwise, on the top right-hand corner.
16	A. Okay.
17	So this is Mr. Broom's report, page 12?
18	Q. Right, and Rose Exhibit 2.
19	A. Okay.
20	Q. Do you see that statement at the top,
21	it starts with "According to the EC-Council"?
22	A. Yes. Just give me a minute to read it.
23	I see it, yes.

let's assume that statement's quoted correctly

Q.

24

25

Do you agree with that statement --

1	M. McGowan
2	from the EC-Council. I'm not going to hold you
3	to that necessarily, that you know that it's an
4	EC-Council statement.
5	Let's assume that that is an accurate
6	quote.
7	Do you agree with that statement?
8	MR. SOUTHWELL: Are you referring to
9	the whole first paragraph or just the first
10	line?
11	MR. BOLAND: I'm referring to the
12	statement about what the EC-Council says.
13	MR. SOUTHWELL: The first line at the
14	top of page 12?
15	It's not clear.
16	MR. BOLAND: The first line is fine.
17	Q. Do you agree with that statement by the
18	EC-Council which is contained on the first line
19	at the top of that page?
20	A. No. As we went over earlier, it's not
21	consistent with it presupposes a broader, a
22	more expansive definition of what rootkits are
23	than what I believe to be the case.
24	Q. And about how many hours have you had

training with just on what rootkits are, if you

25

•	1			
•	1	•		

M. McGowan

2 can recall?

- A. I don't recall the exact number.
- Q. Is there any other electronic evidence you reviewed before issuing the report that you issued that's not listed in the report?
 - A. Could you repeat it one more time?
- Q. Is there any other electronic evidence you reviewed or anyone -- what I'm calling your team are the four people associated with the report.
 - A. Okay.
- Q. And any others that are not listed there that also worked on the analysis of evidence in this case, is there any other electronic evidence that anyone from Stroz Friedberg reviewed related to this case and you reviewed it before issuing that report, but it's in the listed in that report?
- A. Related to this case, yes. The report lists the evidence that we considered and reviewed related to the Ceglia media, which was the purpose, which was the focus of the report.
- Q. My question is, is there other electronic evidence you reviewed related to this

4		
	L	
_	_	

- case that isn't listed in that report?
- A. Yes. As I said, there is other evidence related to this case more broadly that we reviewed that was not -- but that was not the -- but that was not the focus of our report which was pursuant to -- which was our analysis pursuant to the expedited discovery order of Ceglia's media, Mr. Ceglia's media.
 - Q. Please list what was reviewed that's not listed in the report.
 - A. In addition to the Ceglia media that we reviewed as part of our analysis that's described in the report, as a part of, as a different part of our work on this litigation, Ceglia v.

 Zuckerberg litigation, I and others at Stroz

 Friedberg examined assets belonging to

 Mr. Zuckerberg as well as the Harvard, several copies of Mr. Zuckerberg's Harvard e-mail accounts that have been described in the several Rose declarations.
 - Q. Anything else?
 - A. Not that I can recall.
- Q. Can you describe the assets belonging to Mr. Zuckerberg that you just mentioned?

1		
7	_	

M. McGowan

2

3 4

5

6

7

8

9

10

11 12

13

14

15

16 17

18

19 20

21

22 23

24

25

MR. SOUTHWELL: I'm going to object to this line as beyond the scope of the court-authorized discovery at this point.

I think you can proceed with that question, I am not sure how much more you intended to ask on it.

MR. BOLAND: Well, your objections are noted, but unless there's a privilege issue here, we're driving on.

- What other assets do you -- please 0. describe the assets belonging to Mr. Zuckerberg as you just referred to it in your answer to my previous question.
- There were approximately -approximately 28 devices belonging to Mr. Zuckerberg that were presented to us for examination.
 - What were those devices? 0.
- Α. The devices included original hard drives as well as forensic images of devices that I understand were created during the course of prior litigations.
- When you say forensic images of devices, Q. what type of devices are you referring to?

4		
_	•	

5

6

7

8

9

10

11

12

13

14

15

21

22

- A. Primarily computer hard drives.
- 3 0. What else?
 - A. In addition, there was -- and I don't recall if these were forensic images or if these were devices, were they originals, but external media such as Iomega Clik devices, it's a form of storage.
 - Q. Were you the person who evaluated all those, analyzed all those devices?
 - A. I analyzed -- yes, I analyzed them, I had a system at work, but I was the -- I did examine all of them, I was the primary person conducting that examination.
 - Q. And where was that conducted?
- A. It was conducted in San Jose,
 California, at the offices of the McManis
 Faulkner law firm.
- Q. And who else was present during that examination?
 - A. Also present was one of my -- a colleague of mine at Stroz Friedberg.
- 23 O. Who?
- A. He has since left the firm, but his name is Michael Kunkel, K-u-n-k-e-l.

1		
Т		

- 2
- Q. Is he a qualified computer forensics expert?
- 4 A.
 - A. What do you mean by that term?
- 5 Q. Does he have an EnCase certification?
- A. I haven't reviewed his CV in some time.
- 7 I consider him to be a qualified computer
- 8 forensics examiner.
- Q. And where does he work now, if you
- 10 know?
- A. I don't know. He moved -- for family
- 12 reasons he moved to Texas. I don't recall where
- 13 he's employed.
- Q. Do you know if he's still in computer
- 15 forensics?
- 16 A. I believe so.
- 17 Q. Why did he leave Stroz Friedberg?
- A. As I mentioned, he wanted to get back
- 19 to Texas for personal reasons.
- Q. Did you take notes during your analysis
- 21 of these 28 devices?
- 22 A. We did not take written notes.
- Q. Did you take audio notes?
- 24 A. No.
- Q. Did you take any notes?

	4		
	ı		
	ı		
•	۰		

- A. We prepared spreadsheets identifying what it was we were examining, we noted our -- noted our results electronically.
- Q. How electronically? What does that mean?
- A. Part of our work included keyword searches, so we would document what we searched, what was the search criteria that was used and to the extent that data was identified relevant to the searches we made a copy, we made a copy of that information.
- Q. Do you still have the list of keyword searches that you did on that media saved somewhere in your files or someone else's files at Stroz Friedberg?
 - A. We do, yes.
- Q. When did this examination occur of these 28 devices belonging to Mr. Zuckerberg?
 - A. In around September of 2010.
- Q. How long did that work take in California?
- A. It was more than several days, I don't recall the full length, the exact length of how long it took.

4		
_	L	
_	_	

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- Q. And who paid you to do the work?
 - A. We were paid -- we conducted this work for Gibson, Dunn on behalf of Facebook, I believe it's Facebook that's paying our bills.
 - Q. Well, who does the check come from that goes to Stroz Friedberg, from Gibson, Dunn or Facebook?
 - A. I don't see the checks, but my understanding is the engagement letters calls for Facebook to pay our bills.
 - Q. And did you provide any reports or any written results to anyone of your analysis of those 28 devices belonging to Mr. Zuckerberg?
 - A. We did not prepare a written report.
 - Q. Did you communicate with anyone from defense counsel after evaluating those 28 devices?
 - A. Yes.
 - Q. Can you describe how that occurred?

 Was that a conference call or phone call on your own? How did that happen?
 - A. I think it was several phone calls that I had with Mr. Benjamin, counsel of Gibson, Dunn, as we conducted our -- as we conducted our work, so there were several of those.

	Page 66
1	M. McGowan
2	There may have been e-mail
3	correspondence, I don't recall which form it
4	took, but I recall that Mr. Benjamin was the
5	primary person at Gibson, Dunn with whom we were
6	in communication at that time.
7	Q. What categories of electronic evidence
8	did you find on those 28 devices?
9	A. What categories
10	Q. Of electronic evidence did you find on
11	those 28 devices.
12	A. I guess I'm not sure
13	Q. Was there a Web history on some of
14	them?
15	A. I'm not sure specifically about that.
16	Q. Was there instant messaging records?
17	A. Yes.
18	Q. Were there e-mails?
19	A. Yes, I believe so.
20	Q. Were there e-mails authored were
21	there e-mails sent by Mr. Zuckerberg?
22	A. I don't recall.
23	Q. Were there e-mails received by

I don't recall.

Mr. Zuckerberg?

24

25

	4		
	ı		
	ı		
•	۰		

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

I remember that I -- primarily we conducted searches using keywords designed to identify copies of the contract, communications with Mr. Ceglia, other issues related to this case. We did not -- we didn't find any copies of the contract, didn't find any correspondence with Mr. Ceglia.

Those were our primary findings from our examination of the Zuckerberg assets.

- Q. Do you know if you found e-mails between Mr. Zuckerberg and Mr. Ceglia from the time period of March 2003 to June 2003?
- A. I just said we didn't find any correspondence with Mr. Ceglia.
- Q. Were there e-mails on any of those devices, stored on those devices from Mr. Zuckerberg's Harvard e-mail account?
 - A. I don't recall.
- Q. Would you have records? Would Stroz Friedberg have records of what you found in your analysis?
 - A. Yes.
 - Q. And who would have those?
- A. Primarily we have the messages that we

1	
_	

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- had identified or the data that we had identified pursuant to the search, the search criteria, that's the primary body of information that we have from that, from that work.
 - Q. I'm talking about the 28 devices.
- A. Yes.
 - Q. Were there any communications you found on those 28 devices about StreetFax?
 - A. I don't recall specifically.
 - Q. Any e-mails you found on those 28 devices regarding Karin Peterson?
 - A. I don't recall.
 - Q. Did you find any source code related to the StreetFax project that Mr. Zuckerberg worked on for Mr. Ceglia on any of those 28 devices?
 - A. I don't believe so.
 - Q. Was this part of the work that you did in arriving at the conclusions that are in your report?
 - A. I know that the report, our report
 was -- it was submitted -- discussing our report
 we conducted, our examination we conducted
 pursuant to the expedited discovery order of the
 Ceglia media, so our report does provide a

1	M. McGowan
2	summary of the opinions we reached and the
3	materials we considered there.
4	Q. Let's throw a hypothetical at you here.
5	If you would have found e-mails
6	relevant to expedited discovery
7	MR. BOLAND: Scratch that. Not
8	e-mails.
9	Q. Had you found any data on those 28
10	devices relevant, in your opinion, to the Court's
11	expedited discovery order would you have provided
12	that in your report, Exhibit 1 that's in front of
13	you?
14	A. What's Exhibit 1?
15	Q. It's your report.
16	A. Oh, okay, Rose Exhibit 1.
17	MR. SOUTHWELL: Objection to the form.
18	Q. Do you need the question again?
19	A. No, I'm all set there.
20	The Court's expedited discovery order,
21	as I understand it, called for us to report our
22	finding on the Ceglia media, that was the
23	specific purpose of it, and that's what we did
24	here.

That's not my question.

Q.

25

	4		
	ı		
	ı		
•	۰		

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

My question is if in your analysis of the 28 devices had you found any information that in your opinion was contemplated by the Court's expedited discovery order, would you have put it in that report?

MR. SOUTHWELL: Objection, asked and answered.

- Q. Just yes or no, would you have put it in the report?
- A. I went over what my opinion of the Court's expedited discovery order calls for and in my opinion it doesn't call for -- it doesn't call for anything related to the Zuckerberg assets.
- Q. So your answer is no, you would not have put it in the report, even if you thought it was contemplated by the Court's expedited discovery order you wouldn't have put it in the report?

MR. SOUTHWELL: Objection, he just said it wasn't.

- Q. Let me break it down for you.
- Let's say -- hypothetical time -- you found an e-mail on the 28 devices, assets that

1	ı	
_	L	

M. McGowan

you analyzed that was from Paul Ceglia to Mark Zuckerberg discussing the StreetFax business, let's hypothetically say you found that e-mail on one of those 28 devices, would you have put that in your report?

A. On that alone, I'm not sure that is enough of a basis in terms of -- without further context for knowing what the e-mail said.

In this case, what we do is quite clear, we're -- on the one hand we did conduct a search of the Zuckerberg assets, didn't find anything related to, related here, and focused on the Ceglia media as properly -- as I feel properly responsive to the Court's expedited discovery order.

Paul Ceglia to Mark Zuckerberg, I'm not sure that would give me enough basis to know whether or not what it said and whether or not it's relevant, but as I went over earlier, as I understand the Court's expedited discovery order was for us to report our examination of the Ceglia media and our findings.

Q. So this is not my question, you are

1	M. McGowan
2	rephrasing it not how I asked it.
3	If you found an e-mail on one of those
4	28 devices between Mr. Zuckerberg and Paul
5	Ceglia and here's the key thing you're
6	missing discussing the StreetFax agreement,
7	would you have produced, would you have
8	referenced that and talked about that e-mail in
9	your report?
10	MR. SOUTHWELL: Objection. You are
11	starting to badger and harass the witness.
12	MR. BOLAND: I am not badgering.
13	MR. SOUTHWELL: He is answering your
14	questions. You may not like the answer, you
15	may not like the answer, but he is answering
16	your questions.
17	MR. BOLAND: The question he answered,
18	he answered a question of whether there was
19	an e-mail between Paul Ceglia and Mr.
20	Zuckerberg, is that enough. That's not my
21	question.
22	A. That was the earlier question.
23	Q. An e-mail between Paul Ceglia and Mark
24	Zuckerberg discussing the StreetFax business, if

you'd have found an e-mail like that on one of

25

	rage /3
1	M. McGowan
2	those 28 devices would you put it in the report?
3	A. Sorry, which one? Is it the contract,
4	the business? What's the e-mail discussing?
5	Q. Let's break it down.
6	An e-mail between Paul Ceglia and Mark
7	Zuckerberg discussing the StreetFax business, if
8	you had found an e-mail that discusses that,
9	would you have put it in the report?
10	A. This is an e-mail that also was located
11	elsewhere in the Harvard account?
12	Q. Just all by itself, never saw it
13	before, no other e-mail like it in the world, it
14	discusses the StreetFax business between
15	Mr. Zuckerberg, Mr. Ceglia, it's on the 28
16	devices, would you have put it in the report?
17	A. I think it's hard for me to answer in
18	the abstract.
19	What we did is as we found evidence we
20	considered whether our charge was is it
21	reasonably related to the authenticity of the
22	StreetFax contract and the purported e-mails,
23	so

My question is not what your charge is,

Q.

it's a hypothetical question.

24

1	M. McGowan
2	A. Well, I guess I
3	Q. You are not answering the question,
4	sir, and please listen to the question.
5	I'm not saying what was your charge,
6	what do you think your charge was, charge was not
7	even in my question.
8	Hypothetical. If you found an e-mail
9	from Ceglia and Zuckerberg discussing the
10	StreetFax business, would you have put that
11	information that you found that e-mail discussing
12	the StreetFax business in your report?
13	That's the question.
14	MR. SOUTHWELL: Objection. This is
15	you are just badgering him. He's already
16	clearly stated what he put in the report
17	MR. BOLAND: You can't coach him by
18	you can object to the form, Alex, but no
19	coaching.
20	MR. SOUTHWELL: I'm not coaching. I'm
21	try go make it clear. You seem to keep
22	asking the same thing over and over again.
23	MR. BOLAND: Because he's not
24	answering the question.

MR. SOUTHWELL: He is answering.

1
т

M. McGowan

2 3

5

4

6

7

8 9

10

11 12

13

14 15

16 17

19

18

20 21

22

24

23

25

I'll ask it for the next MR. BOLAND: hour because it's a very clear question he is refusing to answer, and I suspect I know why.

Q. Please answer the question.

It's not a difficult question. hypothetical you have to assume is an e-mail -we all know what that is -- between Mr. Ceglia and Mr. Zuckerberg -- so far we know what that is -- and it discusses the StreetFax business.

Assuming that existed on one of these 28 devices and existed nowhere else on any Ceglia media, would you have reported that fact in your report?

That's it, that's all I want to know.

And it would depend -- I think one of Α. the facts it would depend on is the content of that e-mail.

Is it -- does it discuss -- does it bear on the -- does it bear on the contract? Is there information in it that either points in favor or cuts against either of the contract, either the version that was produced by Mr. Ceglia or the version that we found on the

1	M. McGowan
2	Seagate hard drive? Is there information in that
3	e-mail that's consistent with or inconsistent
4	with any of the purported e-mails?
5	So those would be factors that I think
6	I'd need I think would shape would shape my
7	evaluation of that e-mail.
8	MR. BOLAND: All right. We'll take
9	about a 10-minute break.
10	(Recess taken.)
11	THE VIDEOGRAPHER: The tape is rolling.
12	BY MR. BOLAND:
13	Q. So we are back on the record,
14	Mr. McGowan.
15	Do you know who David Cressy is,
16	spelled C-r-e-s-s-y?
17	A. David Cressy? Without more context I'm
18	not sure I can place that name.
19	Q. Okay.
20	The 28 devices that we were talking
21	about before we broke, was there anything on
22	those 28 devices related to Paul Ceglia at all?
23	A. I don't believe so. I recall we had
24	run searches for his name, for his e-mail

address. I don't believe we had identified

•	1			
•	1	•		

M. McGowan

materials related to Paul Ceglia.

Q. That list of search terms you provided for those 28 devices -- not provided.

The list of search terms used for those 28 devices, who created that list?

- A. We created it in consultation with Gibson, Dunn, we drew phrases from the contract and then worked with Gibson, Dunn to develop other keywords designed to get at -- designed to surface what were likely to be relevant documents in this case.
- Q. And who at Gibson, Dunn worked with you on creating that list of search terms?
- A. As I mentioned, we were primarily dealing with Mr. Benjamin for this portion of the work.
- Q. And did you communicate with him by e-mail about -- prior to the analysis of those 28 devices, about the analysis of those 28 devices?
 - A. Yes.
- Q. And if you recall, how many of those 28 devices were used by Mr. Zuckerberg in 2003 and 2004, the time frame where he had a business relationship with Mr. Ceglia?

	Page 78
1	M. McGowan
2	A. I don't recall.
3	Q. Do you know if any of them were used by
4	him during that time frame?
5	A. Yes.
6	Q. And you just don't know the number of
7	how many?
8	A. I don't know the number.
9	Q. Were any of those computers used by him
10	much later in time or anytime after 2004, if you
11	recall?
12	A. I know one of them that sticks in my
13	mind, one of the devices had last been used in
14	2005, but I don't recall how much later devices
15	were used.
16	Q. And were some of those devices you
17	analyzed involved in the Winklevoss ConnectU
18	case, if you know?
19	A. In the ConnectU case?
20	Q. Yes.
21	A. I believe so.
22	Q. Were some of those devices involved in

a case between Mr. Zuckerberg and Eduardo

Saverin, if you know?

23

24

25

Do you know what the cite of that is?

4		
_	L	
_	_	

M. McGowan

- I think I have seen it mostly by captions.
 - Q. No, I don't know the cite off the top of my head.

If you don't recall based on just Eduardo Saverin being one of the parties, then that's fine if you don't recall.

- A. That's right, I don't recall.
- Q. Do you realize, do you know now that Paul Ceglia and Mark Zuckerberg in fact had a business relationship in 2003-2004 related to StreetFax that Mr. Zuckerberg is not disputing?

Are you aware of that?

- A. I am aware of that.
- Q. And do you think it's odd that you didn't find any e-mail correspondence between Mr. Ceglia and Mr. Zuckerberg on any of those 28 devices, given that they had a business relationship?
- A. I don't know if it's odd or not. I don't know -- the devices were presented to me for inspection. I don't know, without knowing more about how they were used, when they were used, I'm not sure I could -- I'm not sure I have an opinion one way or another in terms of the

4			
	-		

M. McGowan

absence of communication between the two on these devices.

- Q. You've seen the Harvard e-mails from

 Mr. Zuckerberg's Harvard e-mail account that were

 produced related to the expedited discovery order?
- A. I have seen the Harvard e-mails that were produced pertaining to the expedited discovery order.
- Q. Were any of those e-mails, copies of them, present on those 28 devices, if you know?
 - A. I don't believe so.
- Q. And what's the basis for your belief that none of them, copies of those e-mails do not appear on those 28 devices?
- A. I know that we've conducted searches for Mr. Ceglia's name and e-mail addresses, the several e-mail addresses, those were in the Harvard e-mails, those were the Harvard e-mails that Mr. Zuckerberg and Mr. Ceglia exchanged and so based on the fact that we didn't identify any communications between the two of them on the Zuckerberg assets, the approximately 28 devices, that's my basis for -- that's my basis period.
 - Q. Did you search for e-mails in which

	_
1	M. McGowan
2	Mr. Zuckerberg communicated with other people,
3	not Mr. Ceglia, about StreetFax?
4	A. StreetFax would have been included as
5	one of the search criteria. I don't recall the
6	full list of search criteria, sitting here, but
7	that would have been one of the terms used.
8	Q. So is your answer what's your answer
9	to my question?
10	Did you find any e-mails between
11	Mr. Zuckerberg and someone who is not Paul Ceglia
12	discussing StreetFax?
13	MR. SOUTHWELL: Objection.
14	A. I'm sorry, I thought your question was
15	did we search for.
16	Q. No. Did you find?
17	If it was search for, I will correct
18	myself.
19	Did you find any e-mails sent or
20	received by Mr. Zuckerberg on those 28 devices
21	but not involving sent or received from
22	Mr. Ceglia, but they discussed StreetFax?
23	A. I'm not sure one way or another on

The set of search terms you used to

that.

Q.

24

1	M. McGowan
2	search the 28 devices, was it identical to the
3	search terms used to search the Harvard e-mail
4	account of Mr. Zuckerberg?
5	A. No.
6	Q. And did you determine by looking at
7	those 28 devices whether Mr. Zuckerberg used any
8	of those devices to access his Harvard e-mail?
9	A. We didn't reach a conclusion on that
10	point.
11	Q. Were you asked to look for that?
12	A. No.
13	Q. Did you ever speak with Mr. Zuckerberg?
14	A. I have not, no.
15	Q. Did you find any references to
16	StreetFax at all on those 28 devices?
17	A. I'm not sure the results on that one.
18	Q. So it's possible there are references
19	to StreetFax on those 28 devices?
20	A. I'm not sure on that one, one way or
21	another on that.
22	Q. I'm just asking if it's possible, since
23	you don't know.
24	Is that possible that there's

references to StreetFax on those 28 devices?

٠	1	
_	L	

M. McGowan

- A. It's possible. I don't -- I don't recall the results of that search.
 - Q. Were any of your results of your searches documented in any way or do those results solely rely on your memory?
 - A. As part of the search process we applied the search criteria and then obtained high-level search results in terms of just how many documents or how many hits per keyword, so it's documented at that phase and then we exported the search results and so we have a set, we have the set of materials that match the search criteria as well, so with the original keyword list, the what I would call the keyword breakdowns, keyword hit breakdowns and the results themselves.
 - Q. Did you provide those to defense counsel?
 - A. We did, yes.
 - Q. Do you know if Mr. Zuckerberg reviewed that information?
 - A. I don't have any basis to know one way or another whether he reviewed it.
 - Q. Can you name everyone that has had

1	ı	
۲	L	

M. McGowan

access to those results, everyone at Stroz
Friedberg that has had access to those results?

- A. The results being the search statistics or the documents that resulted?
- Q. The entire analysis of those 28 devices, whatever documentation arose or was generated from that analysis, who at Stroz Friedberg has had access to that information that you know of?
- A. That I'm aware, that I know of, it's the individuals who had been working on this portion of the analysis: myself, Mr. Kunkel, Mr. Rose.

The results themselves were made available, the documents that matched the search criteria were made available for review in our electronic discovery search platform. I don't know the names of the individuals, but there would be additional individuals who would have been involved in making the documents available for review by Gibson, Dunn.

- Q. And do you know who at Gibson, Dunn accessed those materials?
 - A. I know that Mr. Benjamin, I believe

1		
L	_	

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- 2 that Mr. Benjamin did, but beyond that, I'm not
 3 certain.
 - Q. Do you know if the StreetFax source code is on those 28 devices?
 - A. I think you asked me that. I don't believe so.
 - Q. And what's the basis for your belief that it's not there?
 - A. I don't recall -- in the materials I reviewed I don't recall seeing any source code, any StreetFax source code.
 - Q. Did you conduct a search for StreetFax source code as part of your search?
 - A. We conducted search -- the keywords would have included terms such as StreetFax. We did not specifically conduct a search -- I myself have not seen the StreetFax -- it's not as if we received it, drew search terms from it and applied a search, but I believe in the searches that we did conduct I'm not aware of having identified it.
 - Q. And Facebook source code, did you do a search for that on those 28 devices?
 - A. We did not, no.

•	
L	

M. McGowan

- Q. Now, if the word "StreetFax" doesn't appear in the StreetFax source code, then it's logical you wouldn't have found the StreetFax source code; true?
- A. If the word "Street" -- it would depend on whether any of the other keywords we had run -- if any of the other keywords appeared then it would have been surfaced through our searches. If none of the word searches, none of the terms appeared in the source code then it would not have been returned as part of the searches.
- Q. And so Mr. Benjamin reviewed the results of this, the searches you ran on the 28 devices; true?
- A. Mr. Benjamin was provided access to the results.
- Q. And would you consider that a report, providing a report to him or not?
- A. Would I consider what providing a report?
- Q. Providing him access to the results of your search of the 28 devices, is that equivalent, in your mind, to providing him a report of your results?

	Page 87
1	M. McGowan
2	A. Not as I'm thinking of a report, no.
3	Q. Were you told not to take notes of your
4	analysis, handwritten notes?
5	A. No.
6	Q. Do you typically not take notes when
7	you're doing analysis?
8	A. Oftentimes I document it electronically
9	as we're conducting it just so that it's
10	available and not on a scrap of paper I'm going
11	to lose, so oftentimes it's just the electronic
12	documentation.
13	Q. And did you take electronic
14	documentation searching these 28 devices?
15	A. Yes, we went over the materials that we
16	prepared there in response to your earlier
17	questions, yes.
18	Q. Did anyone tell you to take make
19	that electronic documentation, using your point,
20	did anyone tell you to do that or did you just do
21	it as a matter of standard practice?
22	A. I do it as a matter of standard practice.
23	Q. Do you sometimes issue reports

Yes, sometimes we issue a written

following your analysis of electronic assets?

24

1		
1	•	

M. McGowan

report documenting our analysis.

- Q. And were you told not to issue a report relating to your analysis of the 28 devices?
- A. No, we weren't told, we weren't told not to issue a report.
 - Q. Why didn't you issue a report, then?
 - A. We weren't requested to issue a report.
- Q. So can you just describe for me, just give me a summary of exactly how you analyzed these 28 devices? What process did you go through?

A. So as I mentioned, we first identified, first identified the unique assets. By that I mean that the 28 devices in some cases were forensic images of other devices that were already included in the set. In some cases it was forensic images of forensic images, like a Russian nest, Russian doll through the various -- I understand there were various past efforts, so the first step of our process was just identifying among the materials that we had been presented with what are the -- what are the original sources or what are the unique devices that we have in front of ourselves.

M. McGowan

2 3

4

5

6

7

8

9

10

11

12

13

14

15

16 17

18

19

20

21

22 23

24

25

Did you do this in the offices, the Q.

If a forensic image had already been created we verified it and to the extent we had an existing forensic image that already existed, we relied on that, made a copy of that as opposed to contributing to sort of the proliferation of duplicate copies.

To the extent that a device, it was an original device for which a forensic image had not already been created we attempted to create a forensic image of it and where successful verified that and included that in the results or in the set to search.

The searches themselves, we conducted searches using the EnCase forensic software and a search product called DT Search of both the active contents, the information, the active and recoverable data on the computer as well as an allocated space search, an allocated space component of the hard drives where fragments of deleted data, text fragments may exist, so that was the search process, review of the search results and making -- and then making those data available for review by Gibson, Dunn.

1		
1	_	

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

M. McGowan

conference room or whatever of that law firm you mentioned before?

- A. Yes. That last -- all except for that last stage where the results themselves were taken out at our data center, they were processed in a format that could be made available for review, but up until that point in time the identification, preservation and searching, that was done at McManis Faulkner's offices.
- Q. If you know, were these 28 devices being stored at that law firm prior to you analyzing them or were they brought to that law firm from some other location for you to analyze?
- A. I believe that most if not all of the devices had been -- were being stored, stored at that law firm had been brought out for our inspection.
 - Q. Do you know how they were stored?
 - A. I do not know.
- Q. Can you take a look at Rose Exhibit 1, page 90, please.
 - A. Okay.
- Q. And hold that page for a second.

 Are you aware that there are electronic

1	M. McGowan
2	assets being held by a company called Parmet &
3	Associates related to this case?
4	A. Being held by them?
5	Q. Yes.
6	A. No, I'm not aware of that.
7	Q. Did you search any assets provided by a
8	company called Parmet & Associates?
9	A. Provided by them?
10	Q. Or being held by them, let's put it
11	that way.
12	Did you search any assets that are
13	currently being held by Parmet & Associates?
14	A. Not held by Parmet, no.
15	Q. Have you ever been to the offices of
16	Parmet & Associates?
17	A. No.
18	Q. Did you see a chain of custody document
19	for the 28 devices that you were given to analyze
20	at the law firm that we just mentioned?
21	A. There was forensic documentation on the
22	hard drive itself about the imaging, but not a
23	written chain of custody form.
24	Q. And are you aware that there's

electronic assets potentially related to this

1	
2	
3	
4	
5	
6	
7	
R	

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- case being held by Parmet & Associates?
 - A. I think you asked me that.

No, I'm not.

- Q. Has anyone from Stroz Friedberg, to your knowledge, gained access to those assets to analyze them, the ones at Parmet & Associates?
- A. Among the devices that we had been presented, presented to us, I believe there was references to Parmet, but we have not been provided -- those would have been at McManis' offices, we haven't -- to my knowledge, no one has been provided access to assets directly held by Parmet & Associates.
- Q. What are the references to Parmet & Associates you just mentioned, what does that mean?
- A. That among the 28 devices were some that, according to the documentation, had been preserved by Parmet & Associates in the past and were presently being held by McManis Faulkner.
- Q. Documentation, was it paper documentation you are talking about or documentation on the drives themselves?
 - A. I was thinking of the drives

1	
-	_

M. McGowan

themselves, yes.

- Q. And so just to be clear, when you analyzed these 28 devices, you had no chain of custody related to those devices, they just landed on that table and you analyzed them, you don't know where they came from before that time as far as in a written documentation form?
- A. There was no chain of custody documentation. There was -- I had reviewed declarations that had been filed in a prior case that described, that described the media of where they had come from, so there is some written documentation, but in that format.
- Q. Did those declarations have hash values for all of those 28 devices so you could confirm you were looking at the same thing?
- A. I am not sure the declarations did.

 The hash values would have been among the electronic media, the materials that I referred to on the drives.
- Q. And isn't it a better practice if you can have it, is to have chain of custody for assets that you're going to analyze in a computer forensics analysis?

4		
	L	
_	_	

M. McGowan

- 2
 - A. A better practice than --
- 3
- 4
- 5
- _
- 6
- 7
- 8
- 9
- 10
- _ -
- 11
- 1 0
- 12
- 13
- 14
- 15
- 16
- 17
- 1819
- 2021
- 22
- 23
- 24
- 25

- A. A Detter practice than --
- Q. When you got EnCase certified, wasn't it -- weren't you taught that you would ask, you would ask for a chain of custody for any evidence you were analyzing, if you can get it?
- A. I think having a chain of custody is good practice.
 - Q. All right.
- On page -- what page did I tell you to go to? 90? I think I told you page 90.
 - A. Page 90, yes.
- Q. That is, if I am correct, page 2 -- no, I'm sorry, page 1 of the StreetFax contract as you identify it in your report; true?
 - MR. SOUTHWELL: I'm going to object to the document that's before the witness, which is, as we stated yesterday, is different than what was actually filed in the Stroz report, so I just want to make that clear.
 - MR. BOLAND: Very well.
- Q. So it's a smaller than 8-1/2-by-11 size print of the TIFF image that is page 1 of the StreetFax contract, as you identify in your

-		
_	-	

4

5

6

7

8

9

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- 2 report; is that true on that page?
 - A. On this page, yes, what you have handed me is a smaller version of it.
 - Q. And page 2, I think, is another exhibit in your attachments there, I think it's Exhibit F, I thought it was.
 - A. Okay.
 - Q. Perhaps I'm wrong.
- Let's look at Exhibit F, see if that's page 2.
 - A. Right, Exhibit F, yes.
 - Q. You would agree with me that that TIFF image is an image of a paper document, that's the contention that's being made in your report, that's an image of a paper document?
 - A. It appears to be yes. This is -- I'm pausing because the version that you are showing me is much smaller than the version of the StreetFax contract that I am accustomed to seeing in print.
 - Q. But you don't dispute -- we already got your testimony earlier -- that's the actual size, physical size of that file, the measurements are in Mr. Broom's report and you conceded those

1		
L	_	

M. McGowan

2 measurements were accurate.

MR. SOUTHWELL: Objection, mischaracterizes.

- Q. Do you disagree with me that that's the actual size, physical size of that file as you found it?
- A. I think to be clear here we're talking about -- there's a couple of different things, there's the size of the original, there's the size of the TIFF image and then there would be the size when printed out, so the measurements pertain to the dimensions of the TIFF image, the TIFF image as it's displayed, as it's displayed electronically.
- Q. Right. I'm talking about do you disagree that the size of this TIFF image is 2.4 by 3.2 inches?

Is there some other measurement for this TIFF that you think, a different size that you determined it was?

A. I think it's -- so the measurements, they are going to depend on -- the size is measured in pixels and how that appears, for example, the size that appears on your laptop

1		
L	_	

M. McGowan

monitor versus a big screen versus a CRT, all of that is going to depend on the dots-per-inch that your monitor is set for.

- Q. No, sir, we're going to go back -MR. SOUTHWELL: He was not finished
 with his answer.
- Q. Go right ahead, but -- we'll clear this up.

Go ahead.

- A. So that size, the physical size is going to be dependent both upon -- I mean, the size of a TIFF image is measured in pixels. If you want to translate into dimensions it's going to depend on what the pixels are and also the dots per inch that it's presently being displayed at.
- Q. Do you disagree with me, sir, that the metadata associated with these two TIFF images indicates that they were 480 by 646 pixels at 200 DPI? Do you disagree with that?
- A. I think one of them was smaller than the other, I don't think they were both the same size.
- Q. Okay.

	
1	M. McGowan
2	What's your basis for that?
3	A. I think just that area that you're
4	speaking of right there, I've been the place
5	we have it most handy is the Broom report on page
6	21 where Scan0001 was 480 by 646 and Scan0002 was
7	480 by 657, so they are slightly different size.
8	Q. Do you disagree with those numbers that
9	Mr. Broom put in his report?
10	A. I do not disagree with those numbers.
11	Q. And the 200 DPI, do you disagree with
12	that, as embedded in the metadata?
13	A. No. The 200 DPI is the resolution of
14	the TIFF image.
15	Q. Of the TIFF image, right.
16	So I don't care what a monitor
17	resolution is for this question.
18	The resolution of the TIFF image is 200
19	DPI; correct?
20	A. Of the TIFF image, yes.
21	Q. And you previously testified you do not
22	disagree with Mr. Broom's conversion from pixels
23	to inches; correct?
2.4	A From that measurement no T do not

disagree.

1		
L	_	

M. McGowan

7

8

9

10

11

12

13

14

15

17

18

19

20

21

22

- Q. Right. These are the pixels, we just acknowledged, we agreed these are the pixels, the measurements of those two TIFF images and he converted them to 2.4 by 3.2 inches, which is the physical size of that file, you would agree with that?
 - A. It's an electronic file.
- Q. Right.
- A. That would be the size at the -- that would be the size of the image without any -- that would be the size of the image --
 - Q. At a hundred percent resolution?
 - A. -- at a hundred percent resolution at 200 DPI.
- 16 Q. Right.
 - So anything else, if that image is printed out in any other size other than 2.4 by 3.2 inches, that's not a hundred percent resolution, is it?
 - A. Well, printing is something -- is something different.
 - Q. Listen to my question.
- If you printed it at exactly a hundred percent resolution, so I don't care what printer

1		
L	_	

M. McGowan

you use, what monitor, it's irrelevant. If you print this image at a hundred percent resolution, when you measure it with a ruler on that printed page, that image is going to be 2.4 by 3.2 inches in dimension; is it not, sir?

- A. I'm not sure it is because it's the pixels, pixels is defined, it's the smallest addressable unit.
- Q. But it's already been converted to inches and you've agreed to the conversion to inches, so if you print the image at a hundred percent resolution, that image measured with a ruler on the printed page is going to be 2.4 for scan 1, 2.4 by 3.2 inches, is it not?

And sir, if you don't know, it's an acceptable answer. If you don't know, you don't know.

- A. So if you print -- if you print the image --
 - Q. At a hundred percent resolution.
- A. And leaving aside differences between printer size pixels and the images of the digital pixels and then add a hundred percent resolution, it would be -- if you were using a program and

	Page 101
1	M. McGowan
2	were able to and printed it at that it would
3	be those, it would be those measurements.
4	Q. All right.
5	So for scan 1 the measurement of the
6	printed image of scan 1 TIFF printed at a hundred
7	percent resolution would be 2.4 by 3.2 inches;
8	true?
9	And I'm reading right from page 21 of
10	Broom's report, I'm not trying to trick you with
11	the numbers.
12	Is that correct, sir, that's what you
13	just said?
14	A. No, I that's if you print it at a
15	hundred percent resolution
16	Q. Yes.
17	A which there's, by default wouldn't
18	be how an image would be printed. Windows
19	provides the ability, when you print, the options
20	you get are to expand it, so the TIFF images
21	would generally be printed TIFF images would
22	generally be expanded to fit the size of a page.

talking about a hundred percent resolution.

But I'm not talking about that, I'm

23

24

25

Q.

Right.

1		
L	_	

3

4

5

6

7

8

9

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

So you'd agree with me the hundred percent resolution, the first Scan0001.tif, if printed, would be 2.4 inches by 3.2 inches as you measure it on the page?

- A. If printed at 100 percent resolution.
- Q. And then Scan0002.tif, if printed at a hundred percent resolution, would measure 3.23 inches by 2.4 inches?

MR. SOUTHWELL: Where are you getting that from?

MR. BOLAND: I'm just asking him the question.

- Q. It would measure 2.4 inches by 3.23 inches?
 - MR. BOLAND: Actually, let me withdraw that question.
- Q. Since the Scan002.tif is slightly larger --
 - A. Right.
- Q. -- by it looks like 11 pixels, you would expect the printed size of that image at a hundred percent resolution to be fairly close to 2.4 times 3.2 inches; wouldn't you agree? 11 pixels isn't that much.

	rage 103
1	M. McGowan
2	A. Yes, if printed at a hundred percent
3	resolution.
4	Q. Right.
5	You can print TIFF images at larger
6	resolution: 200 percent, 300 percent and so
7	forth; correct? You can set your printer to
8	print it at a larger resolution?
9	A. Either your printer or the software,
10	for example, but generally it's oftentimes not
11	just by percentages, but if you used the default
12	program in Microsoft Windows, you'd hit Print,
13	your first two options, the options presented to
14	you will be to scale to fit the size of the page.
15	Q. Okay.
16	The two printed versions of the TIFF
17	images, Exhibit F, I think, and then the one on
18	page 90, whatever that was, Exhibit
19	A. Exhibit H is the one that's on.
20	Q. Right.
21	Do those appear to be approximately 2.4
22	by 3.2 inches?
23	I'm not asking you to say exactly, but

do they appear to be about 2-1/2 inches and a

little over three inches tall, as printed?

24

1		
J	_	

M. McGowan

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

- Not having a ruler here, but it appears Α. to be approximately those dimensions to me.
- Fair enough. And I'll note, of course, Q. you don't have a ruler and I'm not asking you to say exactly.
- So this is an image of a paper document.
- You are not a paper document expert; correct?
 - Α. I am not, yes.
- So you have nothing to say about the Q. authenticity of any paper documents in this case; correct?
- I haven't examined any paper documents Α. in this case.
- The only thing that, as we discussed earlier, it's only to the extent that it's -- the only inferences I have are to the extent that it's a paper document of -- it's a paper copy of a document which I examined electronically and reached opinions about it that way.
- I'm asking about the paper document of 0. which this is an image of a paper document.
 - You don't have any evidence to offer,

1	M. McGowan
2	you don't have any qualifications to testify
3	about the authenticity of the paper document from
4	which this image was made; correct, sir?
5	A. Does that paper image, does that paper
6	document exist?
7	I am not aware of
8	Q. Please just answer the question.
9	You have nothing, no testimony to offer
10	about the paper document from which this image
11	was created because you are not a paper document
12	expert; correct?
13	A. I don't have any I don't have any
14	opinions to offer. I don't believe that
15	document, I am not aware of that document
16	existing, but I don't have any opinions to offer
17	about it.
18	Q. Very good.
19	And likewise, if I gave you a picture
20	of the Brooklyn Bridge
21	Are you familiar with the Brooklyn
22	Bridge?
23	A. Yes.
24	Q. If I gave you a picture of the Brooklyn

Bridge, I think you would agree with me you are

1	
Т	

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- not qualified to talk about, based on that
 picture, the structural integrity of the Brooklyn
 Bridge?
 - A. That's correct, I am not qualified to talk about the structural integrity of the Brooklyn Bridge.
 - Q. And have you ever seen the paper document -- you've never seen the paper document from which that image was made?
 - A. Yes. It's my understanding that it doesn't exist.
 - Q. You've never seen it?
 - A. I have never seen it.
 - Q. So your testimony, your conclusions in your report are solely about the TIFF image that's contained in your report, not about the underlying paper document from which the TIFF image was created; right?
 - A. Could I clarify one thing?
 - We were speaking -- I mentioned I am not aware of it existing. We were actually speaking about the second page. I believe the second page of the Work For Hire, the Work For Hire document and the StreetFax contract are the

4	
_	

M. McGowan

same.

When I was speaking about I'm not aware of it having existed I was talking specifically about the first page of the StreetFax contract which I'm not aware of, I'm not aware of it existing in print format.

- Q. So it's your opinion, based on your analysis, that the second page of the StreetFax contract is the same as the second page of the paper contract which the paper experts have evaluated in this case; is that true?
- A. I haven't conducted a paper -- I haven't conducted a paper document analysis of it. From my review of the text I believe that the content is the same on the second page.
- Q. Did you review the signatures that appear on the second page of the TIFF, the StreetFax contract, and the second page of the paper contract, at least if you have seen a scan of it, did you review those signatures? Do you think those look the same to you?
- A. I -- earlier on, I think when it was first identified in August of 2011 I recall looking at the two of them together. I don't

•	•	
_	L	

M. McGowan

recall, but it's been a while, so I don't recall details, the details of how the two appear.

- Q. Is it your belief, your opinion, your expert opinion, that page 2 of the StreetFax contract is a TIFF image created from page 2 of the paper contract that was evaluated by the paper experts?
 - A. I don't have an expert opinion on that.
- Q. And we already went through earlier you don't know how -- you can't conclude with any certainty how that TIFF image was actually created; correct?
- A. Correct, I cannot conclude how the TIFF image had been created and whether, for example, it was scanned directly onto the Seagate hard drive or whether it had been introduced from another media.
- Q. And do you know -- and you don't know if that TIFF image from the moment of its creation to the time it was placed onto the media where you found it was altered at any point during that time, before it got onto the location where you found it, you can't say whether it was altered at all?

٠	ı		
	ı		

M. McGowan

- A. I can't say that -- I can't say, I can't speak to whether it was altered prior to it having arrived on the media on the Seagate hard drive.
- Q. And then how, sir, can you say that that's an authentic contract between the parties if you do not know whether it was altered before it ended up where you found it? How is that possible?
- A. The basis of why I believe it's an authentic contract is it exists on -- it exists on Mr. Ceglia's media, there's an independent copy that was made, that was sent to you and maintained by Sidley & Austin, it's referred to in contemporaneous e-mails between Mr. Ceglia and Mr. Kole.

The payment terms of that contract are consistent, they are consistent with the payment terms, they are consistent with the payment terms of the discussions between Mr. Ceglia and Mr. Zuckerberg in subsequent e-mail correspondences and in my review I didn't identify any anomalies concerning the metadata of that digital image, those are the reasons why we

1	
1	

M. McGowan

believe that the StreetFax contract is an authentic document.

- Q. I'm asking just about the TIFF image.
 You can't authenticate the paper
 contract, because you are not a paper expert;
 true? We already went over that.
- A. Again, apart from -- I can evaluate it in the digital form.
- Q. So you can't authenticate the paper document from which the image was made and you don't know if the TIFF image was altered before it landed where you found it, so how can you say the TIFF image is authentic?

You have no way of knowing whether it's authentic or not, it could have been vastly manipulated in all kinds of software we went over before you saw it; isn't that true, sir?

A. It's possible that -- I can't speak to what happened to the TIFF image before; however, that's not uncommon for this kind of digital authentic -- authentication case. We don't have a camera sitting over the shoulder of the people involved and oftentimes we are called to examine and opine upon documents as they exist, and

•	1		
	ı		

M. McGowan

that's what we did here, and so the reasons I believe it to be an authentic contract are the ones I just went over, the fact that there's an independent copy in a third party's possession that it's referenced in contemporaneous correspondence at that time and that the terms of it are consistent with e-mails between Ceglia and Zuckerberg, the authenticity of which is not being challenged here.

- Q. The authenticity of what, sir, what part of that?
 - A. Of the e-mail messages.
- Q. Between whom and whom are not being challenged?
- A. The e-mail messages between Mr. Ceglia and Mr. Zuckerberg that reference the payment terms, there are e-mail messages that are in both Mr. Zuckerberg's Harvard account as well as in Mr. Ceglia's files that reference the payment term, that reference the amount of monies owed to Mr. Zuckerberg and reference it as 18,000, which is the, if you sum up the fees listed in section 3, I believe, of the StreetFax contract, that's the payment, the payment provision.

1		
7	_	

- Q. And who told you those are not being challenged by Mr. Ceglia?
- A. I'm not aware -- I've reviewed the -I've reviewed the reports of the digital forensic
 examiners that Mr. Ceglia has retained; I haven't
 seen any -- I haven't seen any challenges to
 those, any discussions that suggests that they
 are inauthentic.
- Q. I am asking who told you that those e-mails are not being challenged by Mr. Ceglia.
 - A. No one told me that.
- Q. So you determined that the StreetFax contract is authentic based on things other than the TIFF image itself; fair to say?
- A. It was through an examination of the TIFF image as well as, as you say, other things, factors, but both.
- Q. So the TIFF image could be altered, you have no way of knowing; true?
- A. The TIFF image, I can't speak to what happened to the TIFF image before it arrived on this computer. However, the TIFF image on this computer is the same that's in Sidley Austin's possession, so there's no -- I haven't seen any

1		
L	_	

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- evidence through my examination of both the images found on the Ceglia -- excuse me, the Seagate hard drive and the Sidley Austin copy that there's been subsequent alterations.
- Q. If I give you a TIFF image right now of anything, a TIFF image of the New York skyline, would you be able to sit here and look at it and authenticate it, assure the Court that it's not been altered in any way?
- A. Not by sitting here and looking at it.

 I am a digital forensic examiner, that's how I -it is through that that I proffer opinions.
 - Q. You listed --
 - MR. BOLAND: Scratch that.
- Q. There's four people's names associated with the report; correct?
- A. In the initial part of the report there's biographies for four people, yes.
- Q. And there was one other person you mentioned earlier who had done some work with some of the evidence related to this report, I forget the person's last name.
 - A. Ms. Forness.
 - Q. Forness, that's it.

1
т

M. McGowan

2

Anyone else that you know of that also contributed to some of the analysis or whatever but is not listed in the report?

5

4

A. Not to the analysis, no.

6

7

Q. And are you aware that Mr. Zuckerberg has not declared that the StreetFax contract is the authentic contract between him and

8

Mr. Ceglia? Are you aware of that fact?

10

A. I'm not aware one way or another what Mr. Zuckerberg has said about it.

1112

13

14

15

Q. And are you aware that Stroz Friedberg is the only expert in this entire case to claim that the StreetFax contract is the authentic contract between the parties?

16

17

18

A. I'm not sure, I'm not sure on that, I haven't reviewed all of the other expert, all the paper document expert reports in detail.

19 20

Q. And have you ever testified in any deposition or in court regarding the authenticity of a digital image other than today, of course?

22

21

A. Let me think.

2324

I've certainly testified about digital

25

Q. Not digital files. I'm being specific,

I'm trying to think if they --

files.

M. M.	icGowan
-------	----------------

2 digital images.

A. I realize, I am just trying to process, go through the past cases.

I've analyzed digital images, I've written reports about them, but in terms of deposition and trial testimony, I don't believe I've testified about digital images specifically prior to this matter.

- Q. Have you ever been qualified as an expert in any field by a court?
- A. Yes, I've been qualified as an expert in digital forensics.
- Q. And when you said you've analyzed digital images, what does that mean?
- A. It's come up in at least several respects of my work, there have been questions about what is the metadata that this image shows, there have been questions about when digital images have arrived on, have been used on a computer, the usage, the usage pattern related to them.

To a limited degree there's been, I have conducted analyses of the content, the pictorial content of digital images as well, so

_			
_			
_	ᆫ		

- those are, I think, the three main ways in which digital images have come up and I've analyzed them in my work.
- Q. Have you ever been qualified by a court to provide an opinion as to whether a digital image is altered or not?
- A. No. As I said, it hasn't come up in any of the deposition or trial testimony, so I haven't had an occasion to.
- Q. Have you had any training on how to detect manipulation in digital images, the content of digital images?
- A. Much of my work is focused on the files, the metadata, the content themselves of digital images, it's an area that I have attended a few lectures and conducted some research, but the analysis of the content of digital images is not an area that has come up much in my work.
- Q. Did you bring your own copy of your report to the deposition today?
- A. Yes. There's a -- I have a copy in my briefcase.
 - Q. Is the briefcase in the room?
- 25 A. Yes.

4		
_	L	
_	_	

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

M. McGowan

- Q. Can you pull out your copy that you brought with you of the report?
 - A. Sure.
 - Q. I'm talking about the filed version of the report, the one that's got the file stamp across the top.

Is that the one you have?

- A. It is, yes.
- Q. Okay. Great.
- A. All right. I have that in front of me.
- Q. Can you look on your page of your copy of the report that you have in front of you there that correlates to these two TIFF images that I just showed you.
 - A. Okay.
- Looking at what would be page 86 or Exhibit F and page 90 of Exhibit H.
- Q. Right.
- So let's start with your page 90 on
 your copy of the report you have in front of you
 there.
- 23 A. Yes.
- Q. Do you see the size of the printed
 version of page 1 of the TIFF image as it exists

1		
4	-	

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- 2 in your report?
 - A. I do, yes.
 - Q. You would agree with me it's larger than the printed size of that same TIFF image as it appeared in Rose Exhibit 1, which you looked at before?
 - A. It is, yes.
 - Q. Does that page that you're looking at have the court information across the top, the document number and the court name and all that?
 - A. It appears to be truncated, but yes, it does appear to have a portion of the court's, I guess, legend, for lack of a better term, on the top.
 - Q. So it's true that the court-related sort of stamp that goes across every page -- I'm looking at what you are looking at in there -- that text is considerably larger than what's on the other pages, would you agree?
 - A. Yes.
 - Q. And that text is also, as you said, truncated, it's not even all present on the page; right?
 - A. That's right, yeah.

٩	1	
_	L	

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- Q. The first portion of the designation
 that goes across the top of the page is missing,
 in fact, the first two letters that appear on the
 top of the page look to be G and F of that
 designation.
 - A. I believe there's an L in there.
 - Q. Oh, L, G, and F; right?
 - A. Or strictly -- and partially cut off A, but yes.
 - Q. And then at the far right of that much larger text is the word "file" and then the number zero and it appears the rest is cut off; would you agree?
 - A. I would agree.
 - Q. Isn't that consistent, the print of that exhibit with that image from the Rose exhibit, Rose number 1, being magnified probably two, four, five times the size of what it was in the other exhibit? Doesn't it look like that thing was magnified from the originally filed page to consume that entire page like it is now?
 - A. I'm not familiar with the process that affixes the caption, but based upon the size, yes, it does appear to be, appear to be

1		
4	-	

M. McGowan

2 magnified.

- Q. And that TIFF image was not that size at a hundred percent resolution as you found it on the Ceglia media; right? It wasn't -- that's not a hundred percent resolution printout of that image; agreed?
- A. This is not a 100 percent resolution printout of this image, correct.
- Q. And without quibbling about how much larger it is, you would agree with me it's beyond a hundred percent resolution that that's being printed at so it can fit most of that 8-1/2-by-11 page?
- A. That's correct, it appears to be printed in the default manner to fill a page, as you said.
- Q. And the other page 2 of that TIFF which appears in your copy of the report, if you can go lead to that and that is Exhibit F; right?
 - A. Right.
- Q. All the same answers to my questions related to that printed version of that exhibit as well, it does appear magnified well beyond a hundred percent magnification as it's printed

М.	McGowan

2 there?

- A. Correct, it appears to be printed to fill the page.
- Q. And the information across the top is much larger font and is cut off at the beginning and the end from the typical information that gets placed as a header across filed documents?
 - A. Yes.
- Q. So that would not be an accurate rendering of the size of that TIFF image or the previous TIFF image at a hundred percent resolution as you found it; true?
- A. I think there's a couple, couple things there. One is I found an electronic copy, it's not a -- this is not an accurate representation of what it would appear if you printed it at a hundred percent resolution. It is, I think, an accurate representation of what happens if you hit Print and just use the defaults.
 - Q. All right.
- And if you could look at the text starting in the left-hand column at the top of that document, would you say that that text is legible?

_	

M. McGowan

- A. I would say it's difficult to read.
- Q. How much of it's difficult to read? Is it just a few words here and there that are hard to read or 50 percent of the words or the majority of the words that you can't read?
- A. Well, leaving aside the embossed court thing, I can -- I would say most words are difficult to read; I believe that I could make out what it's saying, though, in spite of that.
- Q. And could you flip to the other TIFF image as well and answer that same question.
 - A. Sure.

Yes, I'd say that apart from the headers, there's more difficulty, probably all of that is more difficult to read than an ordinary document, I think. I could make out -- that said, I could make out with some time what it was saying.

- Q. What do you mean, with some time?
- A. Meaning I can't read it, I can't read it as quickly to you as quickly as I could, for example, the wording in the Broom report, which is quite larger, but I think if I went slowly and squinted at it I could figure out what it was

1		
4	-	

M. McGowan

2 saying.

- Q. Every word, you think?
- A. I haven't tried every word. One of my colleagues, as part of this, did go through and prepare a transcription, so I personally haven't tried every word, but based upon that I believe that either every word or almost every word could be made out from this.
 - Q. Who did the transcription?
- A. One of my colleagues Karol Pacan was presented with the TIFF images and made an internal transcription for us to review.
- Q. So that's like a sixth person now involved in some work in preparing the report, is that fair to say, we are up to six now?
- A. I wouldn't say that this was involved in the preparation of the report. It was one of the things we did in our analysis, but I would say that the people who were involved in the preparation of this report -- I'm not sure how we are up to six either. Ms. Forness' work was subsequent to it, so I'd say that Jason, Mr. Novak, and myself are the two individuals who were primarily -- who were the individuals

т	

M. McGowan

- performing the digital forensic analysis, the technical analysis, and then Mr. Friedberg and Mr. Rose assisted with the day-to-day supervision as well as the higher-level analysis.
- Q. What percentage of the report would you say you wrote?
- A. I think it's difficult for me to say. The drafting, the drafting process was collaborative, so I don't know that I can point to specific sentences.
 - Q. 50 percent would you say?
- A. I'd say Mr. Rose was more involved in the initial drafting than I was, he probably wrote more of the words that initially appeared here, but then with the back and forth of the editing process to refine it and wanting to make sure we got it right, I can't really say at the end of the day how many are his, how many of -- sort of the division of labor, but as a general matter I would say I was more involved in the forensic analysis and that he took -- he took the primary pass at writing it, drafting it into the narrative form.

That said, I do -- I've reviewed and

4		
_	L	
_	_	

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

25

M. McGowan

contributed and I agree with the opinions offered here.

- Q. Did you retain copies of drafts of the report?
- A. We worked -- we just worked off one document, we had it up on a file on our server, and so we would make changes as we went along and red lined and worked off that, accept them, so we have that version, but we didn't separately save intermediary drafts.
- Q. Does the software you used or the process you use to do that contain versioning itself, kind of click buttons and go back and look at prior versions?
- A. No, it would just have whatever was in the final draft.
- Q. And the person who did the transcription of the two TIFF images, did they do that accurately or did they make any errors in that transcription, if you know?
 - A. I'm not aware of any errors.
- Q. Did you review the transcription for errors?
 - A. I did not conduct a line-by-line

1	M. McGowan
2	review. The purpose of the transcription was as
3	an aid, an aid as we were conducting this to be
4	able to more easily refer to it.
5	I did look, I did compare the two
6	together, it appeared to be it appeared to be
7	accurate to me, but I did not conduct a
8	line-by-line review of the two.
9	MR. BOLAND: I am going to take about a
10	five-minute break and then I think I'm going
11	to wrap up.
12	(Recess taken.)
13	THE VIDEOGRAPHER: The camera is
14	rolling.
15	BY MR. BOLAND:
16	Q. All right, Mr. McGowan, we are back on
17	the record.
18	What was can you describe Mr. Rose's
19	involvement in the analysis of those 28
20	computers? 28 devices, I will use your term.
21	A. Yes. Mr. Rose I was not physically
22	present for the analysis, and but and I
23	believe that it was actually sometime during the

course of the examination that he began to be

more involved in the day-to-day supervision, up

24

25

1		
	-	

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- until that point in time it had been

 Mr. Friedberg, but I consulted with both of them

 in terms of the approach, discussed the keywords,

 and they would have been involved in

 communications with Gibson, Dunn.
 - Q. Did Mr. Rose know who was involved in that examination of those 28 devices?
 - A. Did Mr. Rose know?
 - I'm not sure one way or another. He began -- he got involved at some point in the process, so I'm not -- it was -- Mr. Rose got involved after my first trip to -- after my trip to -- my trip to San Jose, so I'm not sure one way or another if he knew specifically everyone that was involved in that.
 - Q. How many trips did you make to San Jose to analyze these 28 devices?
 - A. Just one.
 - Q. Did you make any trips anywhere else to analyze these 28 devices?
 - A. No.
 - Q. And other than those 28 devices and the list of items in the report, Rose Exhibit 1 for this deposition, were there any other electronic

	1490 120
1	M. McGowan
2	assets that anyone from Stroz Friedberg analyzed
3	related to this case?
4	A. In the Harvard e-mails that we
5	mentioned earlier that were discussed in the
6	several Rose declarations.
7	I believe that's it, I believe that's
8	the full accounting for them.
9	Q. And were you in consultation with
10	Mr. Rose about the analysis of these 28 devices
11	when you were in San Jose as well as when you
12	returned?
13	A. I don't believe I was in consultation
14	with Mr. Rose. I can't recall speaking to him
15	when I was in San Jose.
16	Q. When you returned from San Jose did you
17	have conversations with him about the analysis of
18	those devices, those 28 devices?
19	A. Yes.
20	Q. How many conversations?
21	A. I don't recall.
22	Q. Would it surprise you to learn that
23	Mr. Rose, when I asked him questions about

analyzing these electronic assets, didn't know

anything about who worked on them? Would that

24

25

1	М.	McGowan

2 | surprise you?

- MR. SOUTHWELL: Objection.
 - A. No. As I mentioned, Mr. Rose began his day-to-day involvement in the supervision after -- after the trip to San Jose, so that doesn't, it doesn't surprise me.
 - Q. Is it your testimony that you made him aware of what your findings were regarding the analysis of these 28 devices?
 - A. We had discussions about -- certainly we discussed the analysis, we discussed -- some of it -- some of it continued after he began his involvement.

Sitting here, I can't think of a conversation where we sat down and specifically went over findings.

- Q. When would those discussions have taken place?
 - A. In the fall of, fall of 2010.
- Q. So does it surprise you that Mr. Rose, when asked questions about these devices, didn't know anything about anything regarding these? In fact, he even -- would it surprise you to know that he even indicated there were 15 to 20

1	M. McGowan
2	devices, not 28, so he was way off on the number
3	as well?
4	MR. SOUTHWELL: Objection to form.
5	Q. Does it surprise you that he doesn't
6	accurately know how many devices were analyzed?
7	MR. SOUTHWELL: Objection to form.
8	A. Not necessarily.
9	Again, it was he began his
10	involvement after, after the initial searches had
11	been conducted and then we prepared as I said,
12	we documented, documented this in a spreadsheet.
13	I don't know one way or another if he
14	had reviewed it, if he I don't I guess I
15	don't expect him to have a detailed understanding
16	of the exact devices that we searched.
17	MR. BOLAND: Okay. I don't have any
18	further questions for him, Mr. Southwell.
19	MR. SOUTHWELL: I just have a couple,
20	and I just need to take a two-minute break
21	to get a document for that purpose, so just
22	hold on for a sec.
23	MR. BOLAND: I will stay right here.
24	(Recess taken.)
25	THE VIDEOGRAPHER: Camera is rolling.

_				

2 EXAMINATION BY

3 MR. SOUTHWELL:

4

5

6

7

8

9

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Mr. McGowan, you were asked by Mr. Boland some questions about the StreetFax, what we referred to as the StreetFax contract and the size of that file, the size of the actual TIFF file.

- Do you recall that?
- 10 A. Yes.
 - Q. And do you recall the process by which that item was produced in this case, generally speaking?
 - A. Yes. That item would have been produced -- there's an Electronic Asset
 Inspection Protocol in place in this case that governs the production, so after we identified the TIFF files, among other things on the StreetFax, on the Seagate hard drive, we provided them to counsel for Mr. Ceglia at the time, specifically to Mr. Lake, there was a period of time which he had a chance to review them, object to them as privileged, identify them as confidential.

1	M. McGowan
2	confidential and they were produced to you,
3	produced to you first with a legend identifying
4	them as confidential in early August 2011, I
5	believe, and then subsequently the privilege, the
6	confidentiality designation was removed, I don't
7	recall the circumstances, and an original copy
8	was provided.
9	MR. SOUTHWELL: I would ask that this
10	be marked as McGowan Exhibit 1, please, Mr.
11	Court Reporter.
12	(McGowan Exhibit 1, declaration of
13	Alexander H. Southwell, marked for
14	identification, as of this date.)
15	MR. SOUTHWELL: Here's a copy for you,
16	Mr. Boland.
17	Q. I'm showing you what has been marked as
18	McGowan Exhibit 1, which is document 111 as filed
19	in this litigation. This is a declaration from
20	myself submitted in support of defendants'
21	cross-motion to compel compliance with the July
22	1st order.
23	Do you see this document in front of
24	you?

A.

I do, yes.

25

1	
2	
3	
4	

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

- Q. I am going to direct your attention to --
 - MR. BOLAND: Alex, if you could just speak up a little, I was having trouble hearing the last part of what you said.
 - MR. SOUTHWELL: Okay.
 - MR. BOLAND: Thanks.
- Q. Directing your attention to the Exhibit A, which is the sixth page in to McGowan Exhibit 1; do you see that?
 - A. I see it, yes.
 - Q. What do you recognize this as?
- A. It appears to be a printed copy of the -- printed copies, rather, of the two images of what we are referring to as the StreetFax contract which were found on the hard drive, the Seagate hard drive attached to e-mail messages as -- the names were Scan0001.tif and Scan0002.tif.
- Q. And is this the same StreetFax contract that we've been talking about that Mr. Boland was asking you questions about and showing you a small version of and a larger version of it?
 - A. It appears -- yes, it appears to be a

1	
Т	

4

5

6

7

8

9

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

2 copy of the same document.

- Q. Can I direct your attention to the upper right corner of this page that we're looking at, the second to last page in McGowan Exhibit 1, and you see some writing there that is actually upside down.
 - A. Yes.
 - Q. Do you see that?
- 10 A. Yes.
- 11 Q. Could you read what that says?
- 12 A. Yes.
 - It's oriented upside down, but it says "Ceglia Media Item Number 2."
 - Q. Are you aware of who affixed -- well, are you aware of what that signifies?
 - A. Yes. I believe it refers to the numbers, number 2 and number 4 referred to on the items, the items as listed in the presumptive materials log that we would have provided to Mr. Lake along with his -- at the time of these documents were provided to him.
 - Q. Are you aware of whether Mr. Lake or someone working with him affixed the label "Ceglia Media Item Number 2" to this page?

1	ı	
۲	L	

M. McGowan

Are you aware of whether anyone at

2

A. I'm not certain.

0.

4 5

3

Stroz Friedberg affixed that note?

6 7

8

9

A. I'm not fully certain one way or another. I know that we had to label the documents when they were originally provided with the confidential label; I'm not sure if we did or not, sitting here.

10 11

12

13

Q. And what is the -- how would you describe the size of these words that you are referring to, "Ceglia Media Item Number 2," in relation to the other text on the document?

14 15 16

17

A. The size of the designation Ceglia media item 2 and 4, it appears to be approximately the same size, approximately slightly larger than the text of the document, than the text in the document.

22

23

Q. And referring you back to the questions Mr. Boland asked about an image of the StreetFax contract that had cut off the court legend that was in a larger size and cut off, how would you compare the size on this document where it says "Ceglia Media Item Number 2" to that size?

2425

A. This is significantly smaller, the

٠	1	
_	L	

M. McGowan

legend "Ceglia Media Item Number 4" is significantly smaller in size than the court caption or the writing at the top of the document on the other one that I looked at, it was discussed with Mr. Boland that was included in Rose Exhibit 1.

- Q. Directing your attention to these last two pages to the left of the legend "Ceglia Media Item Number 2" and "Ceglia Media Item Number 4," do you see that court legend there?
- A. I see the court legend there, yes, to the left, yes.
- Q. And as compared to the court legend on the page that Mr. Boland asked you about, how would you describe this court legend on this page of McGowan Exhibit 1?
- A. This is -- the legend on the two pages that we are looking at here are significantly smaller in size. They appear to be of a normal, normal typewritten font size as compared to Rose Exhibit 1, which was considerably larger and truncated.
- Q. And the overall size of page 1 and page 2 of the StreetFax contract in this exhibit is

•	а			
	ı			
-		ш		

M. McGowan

what, roughly speaking?

MR. BOLAND: Let me just, I think the witness is confused on something. He just referred to Rose Exhibit 1 as having the much larger font truncated across it. He was actually looking at the report you brought with you when you had the larger font truncated, he wasn't looking at the Rose exhibit, just to clarify, and I don't think you meant to try and mislead it, but just we had a lot of different copies of the same thing, we're getting confused.

THE WITNESS: Thank you for clarification. Yes, I was referring to the filed copy of the report which was not Rose 1 but my copy of the filed report which is much larger in size.

Q. Right.

And then the overall appearance of page 1 and page 2 of the StreetFax contract here, roughly speaking, what is the size?

- A. It appears to be approximately the size of a piece of paper.
 - Q. Of what size paper?

1	
_	

4

5

6

7

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

M. McGowan

- 2 A. 8-1/2-by-11 piece of paper.
 - Q. And you mentioned a court label here on the top of these last pages.

Do you have any specific knowledge about how those court legends are affixed to documents that are filed with the court?

- A. No, I don't.
- Q. Now, you were asked some questions about the file size of the TIFF image that we're referring to here.

Are there different ways that a paper document would have been scanned that would result in the file size?

- A. The file size or the image size?
- Q. The image size, I guess, is what I mean.
- A. Yes. There are several ways. For example, if one scanned a document, a full-size 8-1/2-by-11 document and used settings on the scanner to reduce the size of the image, that's one way in which a smaller, a smaller size TIFF image could result.

Another way is subsequent to the scanning, if in the -- after the paper had been

	4		
	ı		
	ı		
•	۰		

M. McGowan

fed in full size, an 8-1/2-by-11 piece of paper, if the scanning software offered the option to save it as a smaller size, that's another way.

- Q. And what are some of the reasons why a paper document would be scanned in a smaller size?
 - MR. BOLAND: Objection to the form of the question.
- A. There are several possibilities. One is when we're running out of space on the media that it was being saved on, for example, the hard drive, if one wanted to, for example, instead of having a 12-megapixel image have a smaller one. It's also possible if one needed to transport it, a media such as a floppy disk that only had limited capability, if one were to send it via an e-mail message and wanted a smaller size either because there was a hard limit on what could be sent out or it would just take longer to upload, send out, transmit a large size.

If one were posting it to a Web site oftentimes the sizes of images are reduced, and I guess also just inadvertently as well, if someone in saving it clicks an option and chooses to save

	rage 140
1	M. McGowan
2	it as a smaller size.
3	Q. And you were asked some questions about
4	whether the paper documents that resulted in the
5	scan was in the two-inch by three-inch size or a
6	larger size.
7	Do you have an opinion about which is
8	the more likely possibility?
9	MR. BOLAND: Objection.
10	A. Yes.
11	Q. What is that?
12	A. It's more likely that a full-size piece
13	of a full-size document, 8-1/2-by-11 document
14	was scanned and subsequently reduced in size as
15	opposed to an essentially postcard-size piece of
16	document being scanned and not subsequently
17	changed in size.
18	MR. SOUTHWELL: Nothing further.
19	BY MR. BOLAND:
20	Q. Just on that, Mr. McGowan, the two
21	examples of the TIFF images that Mr. Southwell
22	just had you look at from that, I guess it's
23	McGowan Exhibit 1, those are magnified from the

actual size of those TIFF images; right?

Α.

24

25

The printed version appears to be

4		
_	L	
_	_	

- printed and the option to scale to the size that would fit the paper, it does not appear to be printed at the electronic resolution which would be smaller in size.
- Q. So it's larger than a hundred percent resolution, that printing right there?
- A. This resolution is smaller than a hundred percent resolution of the two images.
- Q. And Mr. Southwell asked you a bunch of questions about why a person might scan a document at a smaller size.
 - A. Yes.
- Q. But it's your testimony that you can't say for sure how this TIFF image came into being, there's a variety of ways that image could have been created; true?
- A. There are, yes, several ways the TIFF image could have been created.
- Q. And you and Mr. Rose both testified that your opinion is this image was created somewhere and then placed onto the Seagate hard drive where you found it; right?
 - A. No. That's -- that's not my testimony.

 I can't speak for Mr. Rose's, but, as

1	M. McGowan
2	we discussed, the image, as I went over earlier,
3	the forensic evidence is that the TIFF image was
4	created on this computer on the morning of March
5	3rd, 2004, I can't say whether it was scanned
6	directly onto this computer or if it had been
7	created from another media, transferred from
8	another media.
9	Q. Right.
10	So there's no evidence it was scanned
11	directly to the Seagate hard drive?
12	A. There's no evidence one way or another
13	in terms of whether it was scanned directly to
14	the Seagate hard drive or transferred from
15	elsewhere.
16	Q. Okay.
17	So you don't know which one of those is
18	the case here, the origin of this TIFF image?
19	A. Right. There's not sufficient forensic
20	evidence to know.
21	(Continued on following page.)
22	
23	
24	
25	

	Page 143
1	M. McGowan
2	MR. BOLAND: Okay.
3	No further questions, that's it.
4	Thank you.
5	MR. SOUTHWELL: Nothing further.
6	(Time noted: 1:46 p.m.)
7	
8	
9	MICHAEL F. McGOWAN
10	
11	Subscribed and sworn to before me
12	this, day of, 2012.
13	
14	
15	Notary Public
16	
17	
18	
19	
20	
21	
22	
23	
2 4	
25	

	Page 144
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 MICHAEL F. McGOWAN, the witness
11	whose testimony is hereinbefore set forth,
12	was duly sworn by me and that such
13	testimony given by the witness was taken
14	down stenographically by me and then
15	transcribed.
16	I further certify that I am not
17	related to any of the parties to this
18	action by blood or marriage, and that I am
19	in no way interested in the outcome of this
20	matter.
21	IN WITNESS WHEREOF, I have hereunto
22	set my hand this 23rd day of July, 2012.
23	
2 4	
25	CARY N. BIGELOW

		Page 145
1		
2	I N D E X	
3	WITNESS EXAMINATION BY	PAGE
4	MICHAEL F. McGOWAN MR. BOLAND	4, 140
5	MR. SOUTHWELL	131
6		
7	INFORMATION REQUESTS	
8	TO BE FURNISHED: Page Line	
9	14 24	
10		
11	EXHIBITS	
12		
13	McGowan Exhibit 1, declaration of	132
14	Alexander H. Southwell	
15		
16		
17		
18		
19		
20		
21		
22		
ļ		
23		
23 24		

				Page 146
			A SHEET	
	VEI	RITEXT REP		MPANY
			BROADWAY	
	ì	NEW YORK,		10001
			279-9424	
		CEGLIA VS.		
		TION: JULY	•	
		NT: MICHA		OWAN
PAGE	LINE(S)	CHAN	GE	REASON
I			I	
I			I	
I			I	
I			I	
I			I	
I			I	
I			I	
I			I	
I			I	
I			I	
I		l	I	
I		l	I	
I			I	
		MICHA	EL F. McG	OWAN
SUBSC	RIBED AND	SWORN TO	BEFORE ME	
THIS .	DAY	OF		20
	 RY PUBLIC)			SSION EXPIRES:

[& - add] Page 1

&	1st 132:22	88:15 90:11 91:19	able 13:23 21:25
& 1:19 2:11 91:2,8	2	92:18 93:4,16	34:17 101:2 113:8
91:13,16 92:2,7,14	2 3:9,19 21:16 40:19	126:19,20 127:8,18	126:4
92:15,20 109:15	57:10,18 94:13 95:5	127:21,23 128:10	absence 80:2
0	95:11 108:5,6	128:18 129:10	abstract 73:18
	120:18 134:14,18	130:2	accept 125:9
00569 1:4	134:25 135:12,15	3	acceptable 100:17
1	135:24 136:10,25	3 111:24	access 12:10 45:10
1 3:10,18 11:12 15:3	137:21	3.2 96:18 99:5,19	49:9,14,18 50:12,20
21:16 69:12,14,16	2-1/2 103:24	100:5,15 101:7	51:12,15,21 52:3,4
90:21 94:14,24	2.4 96:17 99:5,18	102:4,24 103:22	52:7,8 82:8 84:2,3,9
100:15 101:5,6	100:5,14,15 101:7	3.23 102:8,14	86:16,22 92:6,13
117:25 118:6	102:4,9,14,24	300 103:6	accessed 51:3,8
119:18 127:24	103:21	3rd 43:6 142:5	84:24
132:10,12,18	20 129:25 146:23	4	accessing 50:17,18
133:11 134:6 136:7	200 1:19 2:13 97:20	4 134:18 135:15	accord 32:22
136:17,22,24 137:5	98:11,13,18 99:15	136:2,10 145:4	account 34:14 67:18
137:17,21 140:23	103:6	40 3:24	73:11 80:5 82:4
145:13	2003 67:13,13 77:23	44107 2:8	111:19
10 12:20 76:9	2003-2004 79:11	480 97:20 98:6,7	accounting 14:16,18
100 102:6 120:8	2004 43:6 77:24		128:8
10001 146:3	78:10 142:5	5	accounts 13:15,18 60:20
10166-0193 2:14	2005 78:14	50 122:5 124:12	accuracy 4:10
10:11 1:15	2010 64:20 129:20	550 11:22	accuracy 4.10
11 41:15,18 94:23	2011 107:24 132:4	6	38:21 58:5 96:2
102:21,24 120:13	2012 1:14 5:20	646 97:20 98:6	121:10,16,19 126:7
138:2,20 139:2	11:16 143:12	657 98:7	accurately 125:20
140:13	144:22 146:5	7	130:6
111 132:18	21 98:6 101:9	770724 2:7	accustomed 95:20
12 57:10,12,17	212-279-9424 146:4		achievable 51:25
58:14 139:14	23rd 144:22	8	acknowledged
1250 146:3 131 145:5	24 145:9	8-1/2 41:15,18 94:23	26:18 99:3
131 145.3 132 145:13	26 11:16	120:13 138:2,20	acquired 13:12
132 143.13 14 145:9	28 61:16 63:21	139:2 140:13	action 16:17 24:2
14 143.9 140 145:4	64:19 65:14,17 66:8	86 117:17	25:15 144:18
140 143.4 1475 2:6	66:11 68:6,9,11,16	9	actions 17:24 18:9
15 129:25	69:9 70:3,25 71:5	90 90:22 94:11,11	active 89:17,17
15 129.23 15th 22:23	72:4 73:2,15 75:13	94:12 103:18	activity 17:9 21:6,8
18,000 111:22	76:20,22 77:4,6,19 77:20,22 79:17	117:18,20	25:8
19 1:14 146:5	80:11,15,23 81:20	a	acts 18:10
1:10 1:4	·		actual 95:23 96:6
1:46 143:6	82:2,7,16,19,25 84:6 85:5,24 86:14	a.m. 1:15	131:7 140:24
110 115.0	86:23 87:14 88:4,11	ability 50:11,14,15 101:19	add 13:4 100:24

			1
addition 56:15	110:12 112:19	answered 29:6 70:8	arriving 68:19
60:12 62:4	113:10 116:7	72:17,18	articles 7:23 37:10
additional 45:14	alternate 28:13	answering 18:5	50:24,25 51:6 56:15
84:20	32:24	72:13,15 74:3,24,25	aside 100:22 122:7
address 32:13 76:25	amanda 2:17	answers 120:22	asked 14:23 29:5
addressable 100:9	amount 111:21	antivirus 47:3	70:7 72:2 82:11
addresses 80:17,18	analyses 14:5 16:15	anytime 78:10	85:6 92:3 128:23
addressing 29:22	115:24	apart 110:8 122:14	129:22 131:4
32:13	analysis 13:25 16:9	appear 30:23 37:11	135:20 136:15
administrative	36:20 47:9 48:8,10	80:15 86:3 103:21	138:9 140:3 141:10
53:12	48:11,24 49:2,3	103:24 107:18	asking 17:11,12,14
admissibility 3:15	50:8 56:11 59:14	108:3 118:13 119:4	28:8 31:22 49:16,17
3:16	60:7,13 63:20 65:13	119:25,25 120:24	74:22 82:22 102:12
affixed 134:15,24	67:22 70:2 77:19,20	121:17 136:20	103:23 104:5,23
135:4 138:6	84:6,8,13 87:4,7,24	141:3	110:4 112:10
affixes 119:24	88:2,4 93:25 107:9	appearance 40:21	133:23
agencies 51:2	107:14 114:3,5	137:20	assessing 32:19,19
ago 43:16	116:18 123:19	appearances 3:3	asset 13:13 131:15
agree 15:13 23:22	124:2,3,5,22 126:19	appeared 36:11	assets 60:17,24
23:25 26:11 27:20	126:22 128:10,17	86:8,11 118:6	61:11,12 67:10
27:25 29:2 31:9	129:10,12	124:15 126:6,6	70:15,25 71:12
37:7 42:4,12 49:8	analyze 13:18 90:14	appears 11:14 38:25	80:23 87:24 88:14
52:5 53:10,13,15,17	91:19 92:7 93:24	39:18,19 95:17	91:2,7,12,25 92:6
53:19,21,23 57:24	127:18,21	96:24,25 104:2	92:13 93:24 128:2
58:7,17 95:13 99:6	analyzed 13:9 27:14	118:12 119:13	128:24
102:2,24 105:25	27:15 62:10,11,11	120:15,19 121:3	assisted 124:4
118:4,20 119:14,15	71:2 78:17 88:10	133:14,25,25	associated 59:10
120:11 125:2	93:4,6 115:5,14	135:15 137:23	97:19 113:16
agreed 99:3 100:11	116:3 128:2 130:6	140:25	associates 91:3,8,13
120:7	analyzing 36:13	applied 83:8 85:20	91:16 92:2,7,14,16
agreement 72:6	90:13 94:6 128:24	appreciate 24:8	92:20
ahead 97:8,10	anchoring 20:16	approach 127:4	assume 27:14,18
aid 126:3,3	anomalies 20:19	approximately	28:8,20,24 57:25
aided 47:9	21:2,4 28:12 109:24	61:15,16 80:23	58:5 75:8
alex 74:18 133:4	anomaly 21:9 25:12	103:21 104:3	assuming 4:4 28:8
alexander 2:15 3:4	25:12 26:5	135:16,16 137:23	29:25 30:11,12
132:13 145:14	answer 5:21 13:23	area 6:15,17 11:24	32:17 75:12
allocated 89:19,19	14:13 18:3 23:13	25:3 98:3 116:16,19	assure 113:9
allow 44:15 49:9,14	24:8 27:9 28:6,19	areas 33:6 34:4	attached 47:15,17
49:18,22 51:15	57:8 61:13 70:16	arose 84:7	133:18
allowed 11:7,7	72:14,15 73:17 75:4	array 35:9	attachment 22:14
alter 36:17	75:6 81:8,8 97:7	arrived 109:4	attachments 95:6
alterations 113:5	100:17 105:8	112:22 115:20	attempt 24:7
altered 37:2,5	122:12	arrives 38:14	attempted 89:10
108:22,25 109:3,8			

[attended - call] Page 3

attended 8:11 10:24	105:7,15 106:22	105:14 106:23	126:10 130:20
116:16	107:3,6,6 112:4	107:15 109:11	breakdowns 83:16
	114:6,9,10,12		83:16
attention 133:2,9	1 1 1	110:2 111:3,24	
134:3 136:8	125:22 129:9	115:7 119:7 122:9	breaking 50:21
attorneys 2:5,12 3:2	134:15,16,23 135:3	123:7 126:23 128:7	bridge 105:20,22,25
9:8 11:4	aycock 2:17 9:13	128:7,13 132:5	106:4,7
audio 10:12 63:23	b	134:17	briefcase 116:23,24
auditing 53:16,20	bachelor's 8:4	belonging 60:17,24	briefly 9:18,23,25
august 107:24 132:4	back 24:25 49:7,11	61:12,16 64:19	bring 116:20
austin 109:15 113:4	63:18 76:13 97:5	65:14	broader 16:20 58:21
austin's 112:24	124:16 125:14	benjamin 2:16 3:6	broadly 60:4
authentic 27:16,17	126:16 135:19	5:6 9:12,22 24:17	broadway 146:3
27:23 28:5,21,23	backdating 20:18	65:23 66:4 77:16	broke 76:21
29:8,17,20,23 30:7	bad 18:10	84:25 85:2 86:13,16	brooklyn 105:20,21
30:9,11 31:11 32:2	badger 72:11	best 13:6	105:24 106:3,7
32:9,16,17 109:7,12	badgering 72:12	better 18:11 93:22	broom 4:23 7:17
110:3,14,16,22	74:15	94:2 118:14	10:23 39:4 46:23
111:3 112:14 114:8	ballpark 12:18	beyond 8:7 14:4	98:5,9 122:23
114:14	based 39:3 79:5	61:3 85:2 120:11,24	broom's 37:25 38:5
authenticate 110:5	80:21 106:2 107:8	big 18:6 34:21 97:2	39:9,17 45:20 46:5
110:10 113:9		bigelow 1:21 144:7	47:5 57:11,17 95:25
authenticating	112:14 119:24	144:25	98:22 101:10
50:17	123:7	bills 65:5,11	brought 5:6 90:13
authentication 8:18	bases 5:17	biographies 113:19	90:17 117:3 137:8
34:8 110:22	basic 49:23	bit 19:12 36:22	bunch 141:10
authenticity 30:17	basis 71:8,19 80:13	blood 144:18	business 71:3 72:24
31:20 32:23 73:21	80:24,24 83:23 85:8	body 68:4	73:4,7,14 74:10,12
104:13 105:3 111:9	98:2 109:11	boland 2:4,9 3:7,7	75:11 77:24 79:11
111:11 114:20	bear 31:6 75:21,21	3:12,20 4:2,11,17	79:18
authored 66:20	began 126:24	16:5 17:14 18:6	buttons 125:14
authorization 50:13	127:11 129:4,13	24:4,16,22,25 57:13	
authorized 50:20	130:9	58:11,16 61:8 69:7	C
61:4	beginning 121:6	72:12,17 74:17,23	c 2:2 4:12,12 76:16
available 37:17	behalf 65:4	75:2 76:8,12 94:22	144:2,2
84:16,17,21 87:10	behavior 29:16	102:12,16 113:15	calculated 39:4
89:24 90:7	belief 80:13 85:8	126:9,15 130:17,23	calculation 12:11
avenue 1:19 2:13	108:4	131:5 132:16 133:4	38:14,16,20
	believe 7:18 9:13,23		calculations 39:5,10
aware 7:14 19:14,17	14:2,17 20:10,23	133:8,22 135:20	39:17
19:19,20,24 22:4,8	26:13 37:22 39:17	136:6,15 137:3	california 62:17
22:9,23,25 23:8,9	41:2 48:16,20 58:23	139:8 140:9,19	64:22
23:14 27:8,11 34:3	63:16 65:4 66:19	143:2 145:4	call 5:8 39:23 47:25
34:13 36:3,5 37:20	68:17 76:23,25	book 7:22	65:20,20 70:13,14
48:20 50:23 51:5	78:21 80:12 84:25	books 7:20,23	83:15
79:13,14 84:11	85:7,20 90:15 92:9	break 18:2 55:19	
85:21 90:25 91:6,24		70:23 73:5 76:9	

[called - computer] Page 4

11 1 4 12 26 4	72 (15 74 0 75 0	12 10 20 14	• 00
called 4:12 36:4	73:6,15 74:9 75:9	choose 13:10 30:14	coming 9:9
69:21 89:16 91:2,8	75:13,25 76:22 77:2	39:14	commenting 16:17
110:24	77:25 79:10,17	chooses 19:3 139:25	comments 22:24
calling 59:9	80:20 81:3,11,22	chosen 41:22	commission 19:10
calls 42:11 65:10,22	109:16,21 111:8,16	circumstances	146:25
70:12	112:3,6,11 113:3	18:24 21:24 132:7	commit 27:24 28:23
camera 110:23	114:9 120:5 131:20	cite 78:25 79:3	29:3
126:13 130:25	134:14,25 135:12	claim 19:17,19,21	common 17:12
capabilities 36:3,5	135:14,24 136:2,9	19:24 29:16 114:13	35:16,17 43:17 57:4
capability 139:17	136:10 146:5	claiming 19:15	communicate 65:16
capable 44:12	ceglia's 27:22 29:16	claims 23:3 46:11	77:18
caption 119:24	41:3 60:9,9 80:17	clarification 137:15	communicated 81:2
136:4	109:13 111:20	clarify 3:17 23:11	communicating
captions 79:2	center 90:6	106:20 137:10	24:18
captured 47:2	certain 24:12 85:3	classes 17:3,5 54:6,7	communication
captures 18:19	135:2,5	54:20,22	66:6 80:2
care 98:16 99:25	certainly 17:7	clear 32:12 58:15	communications
cary 1:21 144:7,25	114:23 129:11	71:11 74:21 75:3	67:4 68:8 80:22
case 5:14 10:20,25	certainty 108:12	93:3 94:21 96:8	127:6
11:24 12:12,20 14:8	certification 6:14,15	97:8	company 91:2,8
15:20 19:15 20:14	6:17 8:7 15:24 16:7	clearly 74:16	146:2
21:10 22:5,14,19	16:14,19,24 17:2,4	click 125:14	compare 33:16
28:7 29:7,24 37:3	48:17,18 54:6,7	clicks 139:25	126:5 135:23
58:23 59:15,17,20	63:5	clients 14:17	compared 136:14
60:2,4 67:6 71:10	certifications 6:8,11	clik 62:7	136:21
77:12 78:18,19,23	7:15 48:21	cloak 53:4,7,8	comparison 34:18
91:3 92:2 93:11	certified 7:8,11	close 102:23	compel 132:21
104:13,16 107:12	15:16 48:14 94:3	coach 74:17	compensated 11:20
110:22 114:13	certify 144:9,16	coaching 74:19,20	competing 32:24
128:3 131:12,16	chain 91:18,23 93:4	code 51:23 68:14	completely 51:10
142:18 146:5	93:9,23 94:5,7	85:5,11,12,14,23	complex 51:24
cases 88:15,17 115:4	challenged 111:10	86:3,5,11	compliance 132:21
categories 66:7,9	111:15 112:3,11	collaborative	component 17:6
categorized 56:21	challenges 112:7	124:10	25:7 26:2,6 89:20
cd 43:19,19	chance 44:19 131:22	colleague 62:22	components 25:6,9
cds 50:4,5	change 146:7	colleagues 47:10	25:18
ceglia 1:5 3:8 5:18	changed 140:17	123:5,11	comprised 35:14
5:18 11:17 13:12	changes 125:8	college 7:25 55:25	computer 6:13,15
19:15,22 22:4,13,18	chapters 7:22	column 121:23	7:8,21 8:13,16 16:8
22:22 23:2 28:22	charge 11:21 14:17	come 13:5 14:3	18:16,18 22:19 23:3
30:10 45:25 47:24	73:20,24 74:5,6,6	16:21 23:3 38:19	23:11,15 29:3 33:9
48:3 59:22 60:12,15	check 65:6	56:12 57:5 65:6	40:7 42:17,21 43:9
67:5,8,12,15 68:16	checks 65:9	93:13 115:16 116:3	43:12 44:11 45:7,11
68:25 69:22 71:2,14	chicago 8:5	116:8,19	45:11,15 49:8,11,12
71:18,23 72:5,19,23			49:15 50:7,22,24

[computer - court] Page 5

51 2 10 12 16 17	8 1 20 5	10.16.22.5	21.17
51:3,10,13,16,17	confirmed 39:5	contract 19:16 22:5	corners 31:17
52:3,4,8,22 54:8	confirming 38:10	22:7,10,10 27:17,23	corporation 17:25
56:8,18 62:2 63:2,7	confused 137:4,13	28:24 29:17,24 30:7	18:9
63:14 89:18 93:24	connected 44:13	30:17 31:5,10,12,25	correct 4:24 5:2 6:7
112:23,24 115:21	51:16,17	32:9,11 33:24 35:13	6:9,19 7:9 25:20,22
142:4,6	connection 50:2	67:4,7 73:3,22	26:4,8,19,20 30:19
computer's 50:13	connectu 78:17,19	75:21,23 77:8 94:14	35:14 37:18 41:12
computers 16:16	consent 13:17	94:25 95:20 106:25	41:15 45:2,23 47:16
17:9,23 22:24 23:6	consider 19:3,4 56:2	107:5,10,11,19,20	81:17 94:13 98:19
23:12 44:15 49:10	63:7 86:18,20	108:6,7 109:7,12,18	98:23 101:12 103:7
49:15,18 50:12 78:9	considerably 57:5	110:2,6 111:3,24	104:10,14 105:4,12
126:20	118:19 136:22	112:14 114:7,8,14	106:5 108:13,14
conceded 95:25	consideration 25:23	114:15 131:6	113:17 120:9,15
concern 30:21	considered 15:10	133:17,21 135:21	121:3
concerning 16:18	31:20 59:21 69:3	136:25 137:21	corrections 4:10
40:13 109:24	73:20	contributed 7:22	correctly 57:25
conclude 21:17	consistent 5:10	12:15 114:3 125:2	correlates 117:14
26:24 27:5 108:11	39:19 58:21 76:3	contributing 89:6	correspondence
108:14	109:19,19,20 111:8	control 50:5	66:3 67:7,15 79:16
conclusion 10:5	119:16	conversation 129:16	111:7
16:8 17:15,19 29:21	constructed 21:18	conversations	correspondences
82:9	consultation 77:7	128:17,20	109:23
conclusions 15:14	128:9,13	conversion 98:22	council 57:21 58:2,4
68:19 106:15	consulted 127:3	100:11	58:12,18
conduct 11:2 13:14	consume 119:22	converted 38:8 99:5	counsel 24:5 41:8
13:19 45:25 71:11	consumer 37:17	100:10	65:17,23 83:19
85:13,17,21 125:25	contain 125:13	convinced 20:13	131:20
126:7	contained 5:25 13:8	copied 42:22,22	count 56:10
conducted 13:11	22:17 58:18 106:17	copies 31:18 60:19	counterfactual
56:14 62:15,16 65:3	contemplated 70:4	67:4,6 80:10,14	28:16,18
65:24,24 67:3 68:23	70:18	89:7 125:4 133:15	county 144:5
68:23 80:16 85:15	contemporaneous	137:12	couple 35:19 96:9
89:14 107:13,14	31:18 32:25 109:16	copy 10:11 11:14	121:14,14 130:19
115:24 116:17	111:6	22:10 29:20,23	course 45:6 54:16
130:11	content 10:16 35:7	34:12 43:16,19	54:23,24 61:22
conducting 62:14	36:21 75:18 107:16	64:11,11 89:5	104:4 114:21
87:9 126:3	115:24,25 116:13	104:20 109:14	126:24
conference 65:20	116:15,18	111:5 113:4 116:20	courses 8:10,10
90:2	contention 95:15	116:22 117:2,12,21	56:13
confidential 131:24	contents 89:17	120:19 121:15	court 1:2,21 23:6,10
132:2,4 135:8	context 18:23 71:9	132:7,15 133:14	61:4 113:9 114:20
confidentiality	76:17	134:2 137:16,17	115:11 116:5
	1	corel 37:20	119.10 11 16 122.7
132:6	continue 3:14	Corer 37.20	118:10,11,16 122:7
132:6 confirm 93:16	continue 3:14 continued 129:13	corner 57:15 134:4	132:11 135:21

[court - directing] Page 6

129.2 6 7 144.7	date 132:14 146:5	donard 19:22 75:17	69.16.60.10.70.2.25
138:3,6,7 144:7 court's 69:10,20	david 76:15,17	depend 18:23 75:17 75:18 86:6 96:23	68:16 69:10 70:3,25 71:5 72:4 73:2,16
			·
70:4,12,18 71:15,22	day 3:9,18,19 48:11	97:3,15	75:13 76:20,22 77:4
118:13	48:11 51:23 124:4,4	dependent 97:12	77:6,20,20,23 78:13
cover 34:19 36:11	124:19 126:25,25	depends 18:24	78:14,16,22 79:18
37:4,12	129:5,5 143:12	deponent 146:6	79:21 80:3,11,15,23
covered 5:19	144:22 146:23	deposed 6:24 10:19	81:20 82:2,7,8,16
crack 53:11	days 12:4 37:4	deposition 1:17 3:18	82:19,25 84:7 85:5
create 33:8 39:7	64:23	4:23,25 6:21 9:8,19	85:24 86:15,23
89:10	deal 48:21	9:21,24 10:5,9,12	87:14 88:4,11,15,16
created 21:9 41:14	dealing 77:16	10:16,24 11:9 14:21	88:24 90:11,16
41:17 42:7,9 44:21	deals 15:21 17:24	114:20 115:7 116:9	91:19 92:8,18 93:4
44:24,25 61:22 77:6	dealt 16:15 17:8	116:21 127:25	93:5,16 126:20
77:7 89:3,10 105:11	39:10	146:5	127:8,18,21,23
106:19 108:6,13,15	dean 2:9 3:7	depositions 10:22	128:10,18,18
141:17,19,21 142:4	deciding 29:10	11:3	129:10,22 130:2,6
142:7	declaration 132:12	describe 60:24	130:16
creating 77:14	132:19 145:13	61:12 65:19 88:9	differences 100:22
creation 43:5	declarations 60:21	126:18 135:11	different 33:4 60:14
108:21	93:11,15,18 128:6	136:16	94:19 96:9,20 98:7
cressy 76:15,17	declared 114:7	described 54:2	99:22 137:12
crime 18:10	dedicated 17:7	60:13,20 93:12,12	138:12
criteria 64:9 68:3	default 40:24	designation 119:2,6	difficult 75:7 122:2
81:5,6 83:8,14	101:17 103:11	132:6 135:14	122:3,9,16 124:8
84:17	120:16	designed 67:3 77:10	difficulty 33:14
cross 132:21	defaults 121:20	77:10	122:15
crt 97:2	defendants 1:10	desktop 50:19	digital 8:14 15:22
crutcher 1:19 2:11	2:12 3:5,6 9:17	detail 114:18	23:20 28:9 33:24
cumulative 21:22	19:14,18,21 22:6	detailed 57:7 130:15	34:8 35:2,5,7,9,16
current 6:3	132:20	details 108:3,3	35:17 36:13 48:9
currently 11:22	defense 9:7 11:4	detect 36:23,25 37:2	49:5 50:2 100:23
91:13	24:5 65:17 83:18	116:12	109:25 110:9,21
custody 91:18,23	define 16:24 17:5,10	determine 21:25	112:5 113:12
93:5,9,23 94:5,7	17:17 19:11	23:24 24:2 82:6	114:21,23,25 115:2
cut 119:9,13 121:6	defined 100:8	determined 31:11	115:5,8,13,15,19,25
135:21,22	definition 17:7,12	31:24 32:16 96:21	116:3,6,12,13,16,18
cuts 75:23	17:15,21 58:22	112:13	124:2
cv 1:4 6:3 8:11	degree 7:25 8:3	determining 26:7	dimension 100:6
15:11 47:15,17	115:23	develop 77:9	dimensions 96:13
54:17 63:6	deleted 27:4 89:21	device 43:22 89:8,9	97:14 104:3
d	deleting 18:13	devices 61:16,19,20	direct 29:20 30:25
	deletion 18:15,17	61:21,24,25 62:6,7	43:9 133:2 134:3
d 1:5 145:2	26:19,23 27:2,3	62:10 63:21 64:19	directing 133:9
data 64:10 68:2 69:9	deletions 16:17	65:14,17 66:8,11	136:8
89:18,21,23 90:6	26:21,22	67:17,17 68:6,9,12	150.0
		011111001097914	İ

212-490-3430

			_
directly 31:8 42:17	39:2,2,14 40:21,22	43:20,23 44:2,4,5,6	95:23 104:18
42:21 43:2 45:7	64:8 87:8 91:18	44:9,12,13,18,19,22	107:23 108:10
92:13 108:16 142:6	94:17 95:14,16	44:24 45:2,4,16,18	113:21 128:5 142:2
142:11,13	104:8,9,20,21,23,24	46:16 47:4 49:4	early 132:4
disable 53:16,20	105:3,6,10,11,15,15	76:2 91:22 108:17	ease 33:14
disagree 46:10 96:5	106:9,9,18,25	109:5 113:4 131:19	easier 33:7,23
96:17 97:18,21 98:8	107:14 110:3,11	133:17,18 139:13	easily 126:4
98:10,11,22,25	114:18 118:11	141:23 142:11,14	ec 57:21 58:2,4,12
discern 27:7	121:24 122:17	drives 44:15 61:21	58:18
disciplines 33:4 34:6	125:7 130:21	62:2 89:20 92:24,25	economics 8:5
disconnected 51:13	132:18,23 134:2	93:21	edit 37:13,15 53:16
discovery 60:8 61:4	135:13,17,18,23	driving 61:10	53:20
68:24 69:6,11,20	136:4 138:13,19,20	dt 89:16	editing 36:7 37:17
70:5,12,19 71:16,22	139:6 140:13,13,16	duly 4:13 144:12	124:17
80:6,9 84:18	141:11	dunn 1:19 2:11 3:5	eduardo 78:23 79:6
discuss 11:9 75:20	documentation 84:7	65:4,7,23 66:5 77:8	effort 13:6
discussed 10:15	87:12,14,19 91:21	77:9,13 84:22,23	efforts 88:20
14:5 26:20 30:4,21	92:19,22,23,24 93:8	89:24 127:6	either 10:11 41:24
38:2 54:17 81:22	93:10,14	duplicate 89:7	42:21 44:7 54:3
104:17 127:4 128:5	documented 83:5,11	e	75:22,23,24 103:9
129:12,12 136:6	130:12,12	e 2:2,2 4:12 10:7,8	123:8,22 139:18
142:2	documenting 88:2	13:15,18 19:21	electronic 13:8,13
discusses 38:5,13	documents 22:16	20:21 22:12,17 30:5	29:13 30:3 31:4,5
73:8,14 75:11	30:20 31:21 56:12	30:7,15,23 31:18	31:12,14,21 32:19
discussing 20:23	57:4 77:11 83:10	32:14 43:7 47:14	32:21 59:4,8,16,25
68:22 71:3 72:6,24	84:5,16,21 104:13	60:19 62:25 66:2,18	66:7,10 84:18 87:11
73:4,7 74:9,11	104:15 110:25	66:20,21,23 67:11	87:13,19,24 90:25
81:12	121:8 134:22 135:7	67:16,18 68:11 69:5	91:25 93:20 99:8
discussions 109:21	138:7 140:4	69:8 70:25 71:4,9	121:15 127:25
112:8 129:11,18	doing 52:23 87:7	71:17 72:3,8,19,23	128:24 131:15
disguising 18:12	doll 88:19	72:25 73:4,6,8,10	141:4
disk 43:16 139:16	dots 38:13 97:3,16	73:13,22 74:8,11	electronically 64:4,5
displayed 96:14,14	dpi 97:21 98:11,13	75:8,19 76:3,4,7,16	87:8 96:15 104:21
97:16	98:19 99:15	76:24 77:19 79:16	elements 19:25
dispute 46:8,15	draft 125:17	80:4,5,7,10,14,17,18	20:12,22
95:22	drafting 124:9,9,14	80:19,19,25 81:10	elliot 1:8
disputing 79:12	124:23	81:19 82:3,8 109:16	else's 33:19 64:15
district 1:2,3	drafts 125:4,11	109:22 111:8,13,16	embedded 98:12
division 124:20	draw 16:7 32:4,10	111:18 112:11	embossed 122:7
document 8:17	drawn 32:7	128:4 133:18	employed 53:4,8
21:12,13,18,24	drew 17:19 77:8	139:18 144:2,2	56:4 63:13
27:13,16 28:3,5,11	85:19	145:2	employees 8:21,22
28:20 29:8,13 30:10	drive 23:2,14,16,17	earlier 26:18 58:20	8:25
30:22 31:2,4 32:3			
32:16 33:8,12,15	23:18,20 42:6,8,8 42:19 43:2,5,12,15	71:21 72:22 87:16	employment 8:15

[enable - fashion] Page 8

enable 52:4,10	59:21,25 60:4 66:7	excuse 43:6 113:3	experts 22:6 27:14
encase 6:14 7:2,5	66:10 73:19 94:5	exhaustive 25:10	27:15 107:11 108:8
8:7 15:23 16:6,14	104:25 113:2,22	exhibit 5:9 11:12	expires 146:25
16:19,23 48:13,15	142:3,10,12,20	15:3 57:10,18 69:12	exported 83:12
54:6,7,19 63:5	exact 9:15 56:10	69:14,16 90:21 95:5	extent 15:21 31:7
89:15 94:3	59:3 64:24 130:16	95:6,10,12 103:17	48:9 64:10 89:3,8
ence 6:14	exactly 35:4 88:10	103:18,19 117:18	104:18,19
ended 9:24 109:9	99:24 103:23 104:6	117:18 118:6	external 8:12 44:7
engagement 65:10	exam 54:24,25 55:2	119:17,18,20	54:14 62:6
enhanced 37:12	55:3,5,8	120:20,23 127:24	eye 18:21 19:3
enhancement 36:10	examination 4:16	132:10,12,18 133:9	f
ensure 24:19	5:18 11:17 33:6	133:10 134:6 136:7	f 1:18 4:12 35:22
entire 84:6 114:13	45:16 52:24,25	136:17,22,25 137:5	47:14 95:7,10,12
119:22	55:18 61:18 62:14	137:10 140:23	103:17 117:18
entitle 4:3	62:20 64:18 67:10	145:13	119:5,8 120:20
entity 18:9	68:23 71:23 112:16	exhibits 5:3 145:11	143:9 144:2,10
equivalent 86:24	113:2 126:24 127:8	exist 50:14,15 89:21	145:4 146:6,21
errata 146:2	131:2 145:3	105:6 106:12	fabricate 30:3,14
errors 125:20,22,24	examinations 8:18	110:25	fabricated 30:24
esq 2:9,15,16,17	examine 44:20 57:5	existed 75:12,13	
essentially 50:21	62:13 110:24	89:4 107:4	facebook 1:9 65:4,5
140:15	examined 4:14	existence 50:6	65:8,11 85:23 fact 25:13 30:21
establish 21:2,4	22:11,12,16,21	existing 89:4 105:16	
established 15:17	30:19 31:2,7 35:6	106:22 107:7	31:15 40:19 44:21 44:25 45:2 75:14
establishment 25:11	44:10 48:3 60:17	exists 109:12,12	79:10 80:21 111:4
estimate 11:23	104:15,21	117:25	114:9 119:4 129:24
evaluate 32:21	examiner 7:9 15:17	expand 101:20	factor 25:19 32:18
110:8	33:12 63:8 113:12	expanded 101:22	factors 19:9 26:14
evaluated 22:6 62:9	examiners 112:6	expansive 58:22	
107:12 108:7	examining 64:3	expect 102:22	34:4,7,14 76:5 112:18
evaluating 65:17	example 20:18 30:5	130:15	
evaluation 25:14	30:14 36:8 39:13	expedited 60:8	facts 75:18
76:7	48:13 49:24 51:2,14	68:24 69:6,11,20	fair 4:11 8:22 11:10
evening 9:23	54:15 96:25 103:10	70:5,12,18 71:15,22	32:3 34:18 36:2
event 34:22 53:17	108:15 122:23	80:6,8	104:4 112:15
53:20	138:19 139:12,13	experience 14:4	123:16
evidence 13:8 15:10	examples 18:11	16:15,20 33:11,17	fairly 102:23
21:5,22 22:19 24:3	140:21	36:13 49:4 52:19,23	fall 129:20,20
25:16 28:10 30:4,8	exams 55:2	expert 7:12,14,16	familiar 14:5 105:21
30:15,24 31:5,7,14	excerpts 22:17	21:18,21 27:8 34:5	119:23
31:16 32:20,21 40:6	exchange 10:8	35:2,5 37:8 63:3	family 18:20 63:11
40:7,10,12,13,15,17	exchanged 10:6	104:9 105:12 108:5	far 22:20 25:11
41:23,25 42:2,5,23	80:20	108:9 110:6 114:13	75:10 93:8 119:11
42:25 43:3,4,8	exchanges 19:21	114:17,18 115:11	fashion 4:5
45:15 59:4,8,15,16	22:12,17	115:12	
	, ,-,	_ · · -	

faulkner 62:18	finished 97:6	forget 113:23	32:3
92:21	firm 62:18,24 90:2	forging 33:14	frauds 19:23
faulkner's 90:10	90:12,14,17 91:20	form 10:12 20:3	fraudulent 17:9
favor 75:23	first 55:6 58:9,9,13	28:2 42:10 62:7	18:12 20:5,9,11,13
fed 139:2	58:16,18 88:13,14	66:3 69:17 74:18	21:19 23:24 25:8,20
feel 13:23 15:18	88:21 102:3 103:13	91:23 93:8 110:9	25:24 26:3,7,15,19
16:21 34:17 35:8	107:5,24 119:2,4	124:24 130:4,7	26:22,25 27:5,21
71:14	127:13 132:3	139:8	29:16 32:11
fees 111:23	fit 101:22 103:14	formally 3:22	friedberg 8:15,20,21
field 50:24 115:11	120:13 141:3	format 35:16,17	8:25 11:15,20 14:6
figure 122:25	five 119:19 126:10	90:7 93:14 107:7	14:12 59:17 60:17
file 18:15,17 27:5	fix 19:3	formatting 20:20	62:22 63:17 64:16
35:17 36:21 39:10	fixes 18:20,21	21:11,15 22:2	65:7 67:21 84:3,9
39:12 40:18,19,20	flip 122:11	forms 17:22 18:14	92:5 114:12 124:3
40:20,23,24,25	floppy 43:16 139:16	formula 38:8	127:3 128:2 135:4
41:22 42:5 43:11,14	focus 59:23 60:6	formulating 21:21	friends 34:12
44:9,21,25 45:3	focused 71:13	forness 47:12	front 15:3 21:22
95:24 96:6 99:6,8	116:14	113:24,25 123:22	69:12 88:25 117:11
117:6 119:12 125:7	following 87:24	forth 103:7 124:16	117:13,21 132:23
131:7,8 138:10,14	142:21	144:11	full 64:24 81:6
138:15	follows 4:15	fortify 51:18,20,22	128:8 138:19 139:2
filed 11:15 93:11	font 121:6 136:21	fortifying 51:24	140:12,13
94:19 117:5 119:21	137:6,9	found 27:15,22	fully 135:5
121:8 132:18	forensic 15:22 23:2	28:14 39:8 42:18,19	fun 33:20
137:16,17 138:7	23:14,19 28:10,14	46:10,12,21 67:11	function 49:21,22
files 20:18,19 35:7	35:6 42:23 48:7,8	67:21 68:8,11 69:5	50:9
39:8 41:3,6,11 43:4	48:10,19,22,24 49:5	69:9 70:3,25 71:4	furnished 14:24
45:11 46:15,15,24	50:8 52:24 55:18	72:3,25 73:8,19	145:8
47:2 49:24 52:4,9	61:21,24 62:5 88:16	74:8,11 75:25 86:4	further 30:15 36:20
52:14,17 53:3,7,9	88:18,18 89:2,4,9	96:7 108:22,24	44:20 71:8 130:18
64:15,15 111:20	89:11,15 91:21	109:9 110:13 113:3	140:18 143:3,5
114:24,25 116:15	112:5 113:12 124:2	120:4 121:13,15	144:16
131:18	124:22 142:3,19	133:17 141:23	g
fill 120:16 121:4	forensics 6:13,16	four 31:16 59:10	g 4:12 35:22 119:5,8
final 125:17	7:21 8:14,14,17,17	113:16,19 119:19	gain 51:20
financial 18:12 19:8	16:8 48:9 50:24	fragments 89:20,21	gained 92:6
find 40:6 46:21 66:8	52:25 54:9 56:9,19	frame 4:8 77:24	general 18:25 44:17
66:10 67:6,7,14	63:2,8,15 93:25	78:4	49:13,16,16 124:20
68:14 71:12 79:16	115:13	fraud 7:11 15:16,19	generally 8:12,23,24
81:10,16,19 82:15	forge 33:23,24	16:2,8,18,25 17:5,7	9:6 14:10 17:23
finding 69:22	forged 29:13	17:10,16,17,21,22	21:20 50:18,19
findings 28:9 46:8	forgeries 16:18	17:23 18:14,16,18	52:20,20 101:21,22
67:9 71:24 129:9,17	forgery 18:22 31:6	19:4,5,7,9,10,13,17	103:10 131:12
fine 4:4 18:4 58:16	33:8,10	20:2 21:2,4 27:24	
79:7		28:23 29:3 31:13	

[generated - image] Page 10

generated 84:8	1.	hear 24:15	•
generation 20:21	h	heard 19:8 25:19	i
getting 49:7,11	h 2:15 4:12 103:19	hearing 133:6	idea 12:21 57:2
51:11 102:10	117:18 132:13	held 1:18 91:2,4,10	identical 82:2
137:13	145:14	91:13,14 92:2,13,21	identification 25:13
gibson 1:18 2:11 3:5	hacker 54:17	hereinbefore 144:11	90:9 132:14
65:4,7,23 66:5 77:8	half 10:2	hereunto 144:21	identified 41:3
77:9,13 84:22,23	hand 11:11 57:15	hide 49:23 50:6	46:18,18,23 64:10
89:24 127:6	71:11 121:23		68:2,2 76:25 85:22
	144:22	52:14,15,16,20	88:13,14 107:24
gif 35:21,21	handed 95:3	high 55:24 83:9	131:17,25
gimp 37:19	handwriting 33:9	higher 49:6 124:5	identify 11:13 13:7
give 8:9 29:12 30:2	34:10	hire 28:4,10 30:22	47:4 67:4 80:21
34:7 43:2 56:21	handwritten 33:25	106:24,25	94:15,25 109:24
57:7,22 71:19 88:10	87:4	hired 14:8	131:23
113:6	handy 98:5	history 66:13	identifying 25:12
given 79:18 91:19	happen 44:16 65:21	hit 83:16 103:12	64:2 88:22 132:3
144:13	happened 40:7	121:20	illustrated 34:21
go 5:7 14:3 19:9	41:24 110:20	hits 83:10	36:9
34:4,8 74:21 88:11	112:22	hold 6:13,15,17	image 18:20,20,21
94:11 97:5,8,10	happens 121:19	43:10 58:2 90:24	19:2 23:2,14,19
115:4 120:19 123:5	harass 72:11	130:22	33:10,23,24 35:7,16
125:14	hard 23:2,13,16,17	hour 9:4 10:2,3	36:8,9,17,22 37:17
goes 29:20 31:9	23:18,20 42:6,8,8	11:22 56:24 75:3	38:14,22,24,24,25
33:13 38:14 65:7	42:18 43:2,5,12,15	hourly 11:21,21	39:16,22 40:4,9
118:17 119:3	43:20,23 44:2,4,5,6	hours 11:23 12:19	41:14 42:20 89:2,4
going 3:13 5:4,7	44:9,12,13,15,18,18	55:10,23 56:7,17,22	89:9,11 94:24 95:14
11:11 14:20 24:4	44:22,24 45:2,3,16	58:24	95:14,16 96:11,13
52:8 58:2 61:2	45:18 46:16 47:3	house 8:16,20 54:12	96:14,17 97:13
87:10 93:24 94:16	49:4 61:20 62:2	54:13 55:14,14,20	98:14,15,18,20
96:23 97:3,5,12,14	73:17 76:2 89:20	55:21	99:11,12,17 100:3,5
100:5,14 126:9,10	91:22 108:16 109:4	humans 51:23	100:12,13,20 101:6
133:2	113:4 122:4 131:19	hundred 99:13,14	101:18 102:22
good 4:18,19 94:8	133:17,18 139:12	99:19,24 100:3,12	104:7,24 105:4,5,10
105:18	139:19 141:22	100:21,24 101:6,15	106:10,16,19 108:6
gotomypc 45:10,17	142:11,14	101:25 102:2,8,23	108:12,15,20
50:17	harvard 60:18,19	103:2 120:4,6,12,25	109:25 110:4,11,12
government 7:3	67:18 73:11 80:4,5	121:12,18 141:6,9	110:14,20 112:15
51:2,7	80:7,19,19 82:3,8	hypothetical 27:9	112:17,19,21,22,23
governs 131:17	111:19 128:4	28:5,16,18,25 29:9	113:6,7 114:21
grant 4:25 10:22,23	hash 93:15,19	29:25 30:12 32:9,18	115:18 116:7
great 117:10	head 24:5,12 79:4	69:4 70:24 73:25	117:25 118:5
guess 28:6 66:12	header 121:8	74:8 75:8	119:17 120:3,7,9
74:2 118:14 130:14	headers 122:15	hypothetically 71:4	121:11,12 122:12
138:16 139:24	11000015 122.15	hypotheticals 28:17	135:20 138:10,15
140:22			155.25 155.10,15

[image - know] Page 11

138:16,21,23	inconsistent 76:3	interested 144:19	jpeg 35:19
139:14 141:15,16	independent 32:25	intermediary	judge 10:25
141:19,21 142:2,3	109:13 111:5	125:11	july 1:14 22:23 43:6
142:18	indicated 129:25	internal 8:25 44:6,8	132:21 144:22
imaged 39:7	indicates 97:20	44:13 123:13	146:5
images 31:24 35:9	indicative 40:20,21	internet 43:25 51:14	june 67:13
35:14 36:13 37:5,11	individual 17:25	51:17,18	justice 34:16
37:13,15,23 38:3,6	25:17	interpret 24:6	
38:11,22 41:18	individually 1:9	introduced 108:17	k
42:17 61:21,24 62:5	individuals 12:14	investigation 28:14	k 62:25,25
88:16,18,18 97:19	49:9,18 50:11 84:12	invoices 14:11	karin 68:12
99:4 100:23 101:20	84:19,20 123:24,25	involved 12:22	karol 123:11
101:21 103:5,17	infer 27:7	13:25 78:17,22	keep 12:8 50:23
113:3 115:2,5,8,15	inference 31:3,9,22	84:21 110:24	74:21
115:20,25 116:3,12	31:23 32:4,6,10	123:15,17,20	keeps 14:16
116:13,16,18	inferences 104:19	124:13,21 126:25	kept 12:15 57:6
117:14 123:12	information 5:12,15	127:5,7,11,13,16	key 72:5
125:19 133:15	5:22,24 14:22 18:13	involvement 48:12	keyboard 48:13
139:23 140:21,24	18:13 64:12 68:4	126:19 129:5,14	keyword 64:7,13
141:9	70:3 74:11 75:22	130:10	83:10,15,15,16
imagine 34:10	76:2 83:22 84:9	involving 54:12	keywords 67:3
imaging 35:2,5	89:17 118:10 121:5	81:21	77:10 85:15 86:7,8
91:22	121:7 145:7	invulnerable 51:25	127:4
imperfect 51:23	initial 113:18	iomega 62:7	kid 34:11
implicate 31:12	124:14 130:10	irrelevant 100:2	kind 110:21 125:14
implicates 32:2	initially 124:15	issue 61:9 87:23,25	kinds 110:17 knew 127:15
important 33:6	ink 33:10 34:15	88:3,6,7,8	know 127:13 know 11:4 12:5,7
inadvertently	innocuous 21:5	issued 59:6	13:2,4 14:2,6,12
139:24	26:21	issues 16:18,21	19:6 21:23 22:18,20
inauthentic 112:9	inspection 13:13	56:19 67:5	25:10,21 26:24 27:4
inauthenticity 32:23	22:22 79:22 90:18	issuing 59:5,18	27:6 29:8,9,24
inch 38:13 97:3,16	131:16	item 131:12,14	33:13,15 34:9,16,17
140:5,5	inspections 22:9	134:14,25 135:12	37:8 44:11 45:5
inches 38:9,15 96:18	installed 45:14,17	135:15,24 136:2,10	50:8 56:25 58:3
98:23 99:5,19 100:5	49:15	136:10	63:10,11,14 67:11
100:11,12,15 101:7	instances 20:17,22	items 32:15 127:24	68:21 71:19 75:4,9
102:4,4,9,9,14,15,24	instant 66:16	134:19,19	75:10,16 76:15 78:3
103:22,24,25	integrity 106:3,6	j	78:6,8,12,18,24,25
included 47:5 50:5	intended 24:16 61:7	jason 13:20 123:23	79:3,9,20,21,22
61:20 64:7 81:4	intent 21:19 24:2	jerry 4:25	80:11,16 82:23
85:16 88:17 89:12	25:6,15 26:9,11,24	jodi 47:12	83:21,23 84:10,11
136:6	27:4,21	jose 62:16 127:14,17	84:19,23,25 85:4
including 16:16,17	intentional 17:24	128:11,15,16 129:6	90:11,19,20 93:7
inconsistencies	21:5,7 26:21		100:16,17,18
20:20 21:11,16 22:2			

[know - mail] Page 12

	1		
108:11,19,19 109:8	left 5:5 24:9 62:24	location 42:9 90:14	63:1 64:1 65:1 66:1
110:12 114:2	121:23 136:9,13	108:23	67:1 68:1 69:1 70:1
124:10 125:21	legal 2:4	log 134:20	71:1 72:1 73:1 74:1
127:7,9 128:24	legend 118:14 132:3	logical 86:4	75:1 76:1 77:1 78:1
129:23,24 130:6,13	135:21 136:2,9,11	logs 53:17,20	79:1 80:1 81:1 82:1
135:6 142:17,20	136:12,14,16,18	long 8:13 9:25 18:6	83:1 84:1 85:1 86:1
knowing 71:9 79:22	legends 138:6	64:21,25	87:1 88:1 89:1 90:1
110:15 112:20	legible 121:25	longer 47:4 139:20	91:1 92:1 93:1 94:1
knowledge 92:6,12	length 9:2 38:9	look 57:9 82:11	95:1 96:1 97:1 98:1
138:5	64:24,24	90:21 95:10 107:22	99:1 100:1 101:1
knows 52:17	letters 65:10 119:4	113:8 117:12 119:5	102:1 103:1 104:1
kole 109:17	level 49:6 53:12 83:9	119:20 121:22	105:1 106:1 107:1
kunkel 62:25 84:13	124:5	125:15 126:5	108:1 109:1 110:1
l	life 33:19	140:22	111:1 112:1 113:1
l 4:12 62:25 119:7,8	likewise 105:19	looked 15:12 21:15	114:1 115:1 116:1
label 134:24 135:6,8	limit 139:19	30:6 50:7 118:6	117:1 118:1 119:1
138:3	limited 115:23	136:5	120:1 121:1 122:1
labor 124:20	139:17	looking 21:21 34:24	123:1 124:1 125:1
lack 18:10 118:14	line 14:20 58:10,13	34:25 35:11,12	126:1 127:1 128:1
lake 131:21 134:21	58:16,18 61:3	36:21 52:24 55:12	129:1 130:1 131:1
134:23	125:25,25 126:8,8	82:6 93:17 107:25	132:1 133:1 134:1
	145:8 146:7	113:11 117:17	135:1 136:1 137:1
lakewood 2:8	lined 125:9	118:9,18,18 134:5	138:1 139:1 140:1
landed 93:6 110:13	lined 125:9 list 8:8 13:7 25:11	118:9,18,18 134:5 136:19 137:7,9	138:1 139:1 140:1 141:1 142:1 143:1
landed 93:6 110:13 laptop 96:25			
landed 93:6 110:13 laptop 96:25 large 139:21	list 8:8 13:7 25:11	136:19 137:7,9	141:1 142:1 143:1
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5	list 8:8 13:7 25:11 25:19 46:11,13,20	136:19 137:7,9 looks 102:21	141:1 142:1 143:1 magazine 34:20
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13	136:19 137:7,9 looks 102:21 lose 87:11	141:1 142:1 143:1 magazine 34:20 37:4
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20 learn 54:4,5 128:22	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19 litigations 61:23	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1 35:1 36:1 37:1 38:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8 74:11 75:8,19 76:3
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20 learn 54:4,5 128:22 leave 14:20 36:15,18	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19 litigations 61:23 little 103:25 133:5	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1 35:1 36:1 37:1 38:1 39:1 40:1 41:1 42:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8 74:11 75:8,19 76:3 76:7,24 77:19 79:16
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20 learn 54:4,5 128:22 leave 14:20 36:15,18 63:17	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19 litigations 61:23 little 103:25 133:5 llc 2:4	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1 35:1 36:1 37:1 38:1 39:1 40:1 41:1 42:1 43:1 44:1 45:1 46:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8 74:11 75:8,19 76:3 76:7,24 77:19 79:16 80:5,17,18 82:3,8
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20 learn 54:4,5 128:22 leave 14:20 36:15,18 63:17 leaving 100:22	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19 litigations 61:23 little 103:25 133:5 llc 2:4 llp 1:19 2:11	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1 35:1 36:1 37:1 38:1 39:1 40:1 41:1 42:1 43:1 44:1 45:1 46:1 47:1 48:1 49:1 50:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8 74:11 75:8,19 76:3 76:7,24 77:19 79:16
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20 learn 54:4,5 128:22 leave 14:20 36:15,18 63:17 leaving 100:22 122:7	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19 litigations 61:23 little 103:25 133:5 llc 2:4	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1 35:1 36:1 37:1 38:1 39:1 40:1 41:1 42:1 43:1 44:1 45:1 46:1 47:1 48:1 49:1 50:1 51:1 52:1 53:1 54:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8 74:11 75:8,19 76:3 76:7,24 77:19 79:16 80:5,17,18 82:3,8
landed 93:6 110:13 laptop 96:25 large 139:21 larger 102:19 103:5 103:8 118:4,19 119:12 120:11 121:6 122:24 133:24 135:17,22 136:22 137:6,8,18 140:6 141:6 law 62:18 90:2,12 90:13,17 91:20 lawyers 9:17 layperson 34:9 lead 120:20 learn 54:4,5 128:22 leave 14:20 36:15,18 63:17 leaving 100:22	list 8:8 13:7 25:11 25:19 46:11,13,20 47:4 60:10 64:13 77:3,5,6,14 81:6 83:15 127:24 listed 5:14,23 7:18 8:11 54:16 59:6,13 59:19 60:2,11 111:23 113:14 114:4 134:19 listen 74:4 99:23 listing 46:14,24 lists 59:21 litigation 60:15,16 132:19 litigations 61:23 little 103:25 133:5 llc 2:4 llp 1:19 2:11	136:19 137:7,9 looks 102:21 lose 87:11 lost 16:11 lot 137:12 m m 4:12,12 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1 19:1 20:1 21:1 22:1 23:1 24:1 25:1 26:1 27:1 28:1 29:1 30:1 31:1 32:1 33:1 34:1 35:1 36:1 37:1 38:1 39:1 40:1 41:1 42:1 43:1 44:1 45:1 46:1 47:1 48:1 49:1 50:1	141:1 142:1 143:1 magazine 34:20 37:4 magazines 37:11 magnification 120:25 magnified 119:18 119:21 120:2,24 140:23 mail 13:15,18 19:21 20:21 22:12,17 60:19 66:2 67:18 70:25 71:4,9,17 72:3,8,19,23,25 73:4,6,8,10,13 74:8 74:11 75:8,19 76:3 76:7,24 77:19 79:16 80:5,17,18 82:3,8 109:22 111:13,16

[mailed - multiple] Page 13

mailed 43:7	124:21 144:20	144:10 145:4,13	messages 20:21
mails 10:7,8 30:5,7	matters 49:5	146:6,21	67:25 111:13,16,18
30:15,23 31:18	matthew 2:16 3:6	memanis 62:17	133:18
32:14 66:18,20,21	mcgowan 1:18 3:18	90:10 92:11,21	messaging 66:16
66:23 67:11,16	4:18 5:1 6:1 7:1 8:1	mean 20:11 35:4	met 4:21 9:12,16
68:11 69:5,8 73:22	9:1 10:1 11:1 12:1	63:4 64:6 88:15	metadata 20:19,25
76:4 80:4,7,10,14	13:1 14:1 15:1 16:1	92:17 97:12 115:15	21:4 28:12 35:7
80:19,19,25 81:10	17:1 18:1 19:1 20:1	122:20 138:17	56:12 97:19 98:12
81:19 109:16 111:8	21:1 22:1 23:1 24:1	meaning 122:21	109:24 115:18
112:11 128:4	25:1 26:1 27:1 28:1	meant 137:11	116:15
main 116:2	29:1 30:1 31:1 32:1	measure 100:4	method 41:14 45:13
maintained 109:15	33:1 34:1 35:1 36:1	102:5,8,14	michael 1:17 62:25
majority 122:6	37:1 38:1 39:1 40:1	measured 12:4,25	143:9 144:10 145:4
making 84:21 89:23	41:1 42:1 43:1 44:1	96:24 97:13 100:13	146:6,21
89:23	45:1 46:1 47:1 48:1	measurement 38:9	microsoft 55:11,16
malware 46:9,11,21	49:1 50:1 51:1 52:1	38:10,15 96:19	55:21 56:5,8,11,19
46:24 47:2 49:7	53:1 54:1 55:1 56:1	98:24 101:5	56:23 57:4 103:12
management 50:2	57:1 58:1 59:1 60:1	measurements 38:2	mimic 33:25
manipulate 29:13	61:1 62:1 63:1 64:1	95:24 96:2,12,22	mind 78:13 86:24
manipulated 35:11	65:1 66:1 67:1 68:1	99:4 101:3	mine 62:22
36:16 41:16 110:17	69:1 70:1 71:1 72:1	mechanism 53:25	minute 57:22 76:9
manipulating 36:8	73:1 74:1 75:1 76:1	media 5:18,19 11:17	126:10 130:20
manipulation	76:14 77:1 78:1	13:12 15:22 22:25	mischaracterization
116:12	79:1 80:1 81:1 82:1	27:22 41:3 45:22,25	16:4
manner 45:13	83:1 84:1 85:1 86:1	46:10 47:24 48:3	mischaracterizes
120:16	87:1 88:1 89:1 90:1	50:25 51:6 59:22	96:4
manual 20:21	91:1 92:1 93:1 94:1	60:9,9,12 62:7	mislead 137:11
map 36:22	95:1 96:1 97:1 98:1	64:14 68:25 69:22	missing 72:6 119:3
march 5:20 11:16	99:1 100:1 101:1	71:14,23 75:14	mobile 8:17
43:6 67:13 142:4	102:1 103:1 104:1	93:12,20 108:18,21	moment 108:20
mark 1:8 28:24 71:2	105:1 106:1 107:1	109:4,13 120:5	monies 111:21
71:18 72:23 73:6	108:1 109:1 110:1	134:14,25 135:12	monitor 97:2,4
79:10	111:1 112:1 113:1	135:15,24 136:2,9	98:16 100:2
marked 11:12 57:10	114:1 115:1 116:1	136:10 139:11,16	months 13:3
132:10,13,17	117:1 118:1 119:1	142:7,8	morning 4:18,19
marriage 144:18	120:1 121:1 122:1	megapixel 139:14	9:19 10:7 43:6
match 83:13	123:1 124:1 125:1	memory 83:6	142:4
matched 84:16	126:1,16 127:1	mentioned 11:6	motion 132:21
materials 22:21	128:1 129:1 130:1	39:21 60:25 63:18	motive 21:8,9 25:19
41:7 69:3 77:2	131:1,4 132:1,10,12	77:15 88:13 90:3	25:23 26:2,12,16
83:13 84:24 85:10	132:18 133:1,10	91:20 92:16 106:21	28:23 29:2
87:15 88:22 93:20	134:1,5 135:1 136:1	113:21 128:5 129:4	moved 63:11,12
134:20	136:17 137:1 138:1	138:3	multiple 13:2 28:11
matter 10:7 44:7	139:1 140:1,20,23	message 139:18	43:11,14
87:21,22 115:9	141:1 142:1 143:1,9		

[n - page] Page 14

n	notice 1:20	offered 22:18 54:16	opposed 89:5
n	novak 13:20,20	125:2 139:3	140:15
n 1:21 2:2 4:12	123:24	offering 24:13 30:16	opposite 28:9 32:10
47:14 62:25 144:7	number 5:9 6:25	30:25	opposition 29:21
144:25 145:2	9:15 18:14 24:18	offhand 37:21	option 139:3,25
name 37:21 40:23	59:3 78:6,8 118:11	office 9:8 12:6	141:2
40:24,25 47:13	119:13,18 130:2	offices 1:18 62:17	options 101:19
62:25 76:18,24	134:14,18,18,25	89:25 90:10 91:15	103:13,13
80:17 83:25 113:23	135:12,24 136:2,10	92:12	order 23:7,10 47:18
118:11 146:5,6	136:10	official 56:4	60:8 68:24 69:11,20
names 40:18,19,20	numbers 38:17,20	oftentimes 53:2 87:8	70:5,12,19 71:16,22
40:20 41:4 84:19	57:14 98:8,10	87:11 103:10	80:6,9 132:22
113:16 133:19	101:11 134:18	110:24 139:23	ordinary 39:20
narrative 124:24	0	oh 69:16 119:8	122:16
necessarily 13:4		ohio 2:8	oriented 134:13
26:19 39:12,22 42:6	o 4:12 47:14	okay 5:11 24:10	origin 142:18
52:25 58:3 130:8	object 16:3 17:18	27:12,17,19 39:25	original 39:13 61:20
necessary 32:21	20:3 24:4 28:2	57:16,19 59:12	83:14 88:24 89:9
need 27:24 28:18	42:10 61:2 74:18	69:16 76:19 90:23	96:10 132:7
31:19 69:18 76:6	94:16 131:22	95:8 97:25 103:15	originally 42:7
130:20	objection 3:14 4:2	117:10,16 130:17	119:21 135:7
needed 4:10 139:15	16:10 20:7 29:5	133:7 142:16 143:2	originals 35:10 62:6
neil 4:23 7:17	69:17 70:7,21 72:10	once 9:6	outcome 144:19
nest 88:19	74:14 81:13 96:3	ones 5:5 22:21 35:10	outside 8:24
never 73:12 106:9	129:3 130:4,7 139:8	35:10 49:25 92:7	overall 136:24
106:13,14	140:9	111:4	137:20
new 1:3,19,20,22	objections 3:16 11:9	online 7:6	owed 111:21
2:14,14 6:5,7,8	61:8	open 37:18	owner 50:13
113:7 144:3,5,9 146:3,3	obtain 17:3	operation 48:22	р
	obtained 83:8 obvious 24:11	opine 110:25	_
newspaper 37:10		opinion 15:19 18:19	p 2:2,2
night 9:23 15:5,6,12 nod 24:9	obviously 4:2 20:14 occasion 116:10	20:25 21:3,21 30:16	p.m. 143:6
non 55:14		30:25 33:7,13,22	pacan 123:11
normal 136:20,21	occasionally 8:23 occasions 29:12	34:23 37:9 39:3,5	page 19:16 21:16,16
notary 1:21 4:13	occur 17:9 25:14	39:18 42:16,20 51:9	22:5 27:13,16,23 28:3,20 33:8,24
143:15 144:8	64:18	69:10 70:4,11,13	39:2 57:10,12,17
146:25	occurred 15:19 16:2	79:25 107:8 108:4,5	58:14,19 90:22,24
note 41:9,11 45:19	17:16 20:13 26:6,16	108:9 116:6 140:7	94:10,10,11,12,13
104:4 135:4	36:24 65:19	141:21	94:10,10,11,12,13
noted 61:9 64:3,4	occurring 24:6	opinions 5:16,17	95:11 98:5 100:5,14
143:6	34:22	30:20,20 69:2	101:9,22 102:5
notes 63:20,22,23,25	odd 79:15,20	104:22 105:14,16	101.9,22 102.3
87:3,4,6	offer 15:19 34:17	113:13 125:2	106:24 107:5,9,10
07.3,7,0	104:25 105:9,14,16	opportunity 3:22	107:16,18,19 108:5
	107.23 103.3,14,10		107.10,10,17 100.3

[page - potentially] Page 15

108:6 117:12,17,18	partial 46:14,20	periodically 8:12	99:2,3 100:8,8,23
117:20,25 118:9,17	partially 119:9	37:10	100:24 102:21,25
118:23 119:3,5,22	participate 22:9	perpetrate 18:10	place 45:11 76:18
119:22 120:14,16	participated 8:19	person 7:6,7 10:24	98:4 129:19 131:16
120:18 121:4	parties 27:17 79:6	14:15 18:19 36:25	placed 42:8 108:21
133:10 134:4,5,25	109:7 114:15	45:9 52:16 62:9,13	121:8 141:22
136:15,16,24,24	144:17	66:5 113:20 123:14	places 54:9,18
137:20,21 142:21	party's 111:5	125:18 141:11	plaintiff 1:6 2:5 3:8
145:3,8 146:7	pass 55:5 124:23	person's 24:2 26:24	57:11
pages 118:20 136:9	passwords 53:11	27:4 47:15,17	plaintiff's 7:14
136:18 138:4	pattern 115:21	113:23	platform 84:18
paid 11:18 14:7 65:2	paul 1:5 3:8 71:2,18	personal 14:4 19:2	play 34:11
65:3	72:4,19,23 73:6	33:17 63:19	pleadings 22:15
paper 19:16,16 22:5	76:22 77:2 79:10	personally 7:24 13:9	please 17:10 24:25
22:6,10 27:13,14,15	81:11	13:14,19 123:6	60:10 61:11 74:4
27:16,23 28:3 29:8	pause 18:6	perspective 53:5	75:6 90:22 105:8
29:17,20,23 30:10	pausing 95:18	pertain 96:13	132:10
30:17,20 31:2,6,10	pay 65:11	pertaining 80:8	point 24:19 28:7,16
31:17 32:2,8,15	paying 65:5	peterson 68:12	29:3 33:19 43:8
33:8,12,14,24 34:15	payment 109:18,19	phase 83:11	52:21 61:4 82:10
38:23 39:6,20,23	109:20 111:17,20	phone 65:20,22	87:19 90:8 108:22
41:19 87:10 92:22	111:25,25	phones 8:17	124:10 127:2,11
95:14,16 104:7,9,13	people 34:2 47:19	photo 36:7	pointed 20:20
104:15,20,20,23,24	47:21,23 48:2 49:14	photograph 34:19	points 31:5 75:22
105:3,5,5,10,11	59:10 81:2 110:23	34:21,23	popular 50:25
106:8,9,18 107:11	113:19 123:20	photoshop 36:4,6,10	portion 13:25 16:23
107:11,13,14,20	people's 113:16	36:12,18 37:13,15	38:7,12 47:24 77:16
108:7,8 110:5,6,10	percent 99:13,14,19	37:16	84:13 118:13 119:2
114:18 137:24,25	99:25 100:3,13,21	phrases 77:8	portions 10:22 15:5
138:2,12,25 139:2,6	100:24 101:7,15,25	physical 38:8,11	15:6,8,12 38:4
140:4 141:3	102:3,6,8,23 103:2	39:6 95:24 96:6	possession 111:5
paragraph 58:9	103:6,6 120:4,6,8	97:11 99:6	112:25
parents 22:19 23:4	120:12,25 121:12	physically 126:21	possibilities 139:10
park 1:19 2:13	121:18 122:5	pick 35:9 44:8	possibility 44:3
parmet 91:2,8,13,14	124:12 141:6,9	pictorial 115:25	140:8
91:16 92:2,7,10,14	percentage 124:6	picture 105:19,24	possible 29:15,19
92:15,20	percentages 103:11	106:3	36:17,24 82:18,22
part 8:14 13:22	perform 49:3 50:8	piece 31:17 38:25	82:24 83:2 109:10
15:23 16:6 25:23	performed 13:21	39:23 41:18 137:24	110:19 139:15
42:14,15 60:13,14	25:16 47:8,8 48:8	138:2 139:2 140:12	possibly 27:21
60:14 64:7 68:18	performing 49:2	140:15	postcard 140:15
83:7 85:14 86:12	124:2	pieces 22:25 38:23	posting 139:22
111:12 113:18	period 67:13 80:24	39:6,20 43:8	potential 24:14
123:5 133:6	131:21	pixels 38:6,8 96:24	potentially 32:11
		97:13,15,20 98:22	91:25

[practical - quite] Page 16

practical 54:25 55:3	119:16 121:20	proficiency 54:21	pursuant 1:20 13:13
55:8	printed 11:14 96:12	proficient 48:25	23:6,10 60:7,8 68:3
practice 87:21,22	99:18,24 100:4,14	56:3	68:24
93:22 94:2,8	101:2,6,6,18,21	program 36:4,6	put 11:24 20:14
precisely 18:8	102:4,6,7,22 103:2	45:10,17,19 56:6	37:6 52:17 70:5,9
preparation 12:23	103:16,25 117:24	100:25 103:12	70:17,19 71:5 73:2
15:11 123:18,21	118:5 120:13,16,23	programs 46:18	73:9,16 74:10,16
prepare 65:15 123:6	120:25 121:3,17	47:3 50:3,4,6	91:10 98:9
prepared 19:16 64:2	133:14,15 140:25	project 68:15	putting 37:12
87:16 130:11	141:2,4	proliferation 89:6	q
preparing 5:13,22	printer 99:25	prong 32:13	qualifications 105:2
5:25 11:19 45:22,24	100:23 103:7,9	pronounced 35:21	qualified 15:18,21
46:2 123:15	printing 33:9 99:21	proof 29:11	15:25 16:22 35:3,8
presence 49:23	141:7	propagating 53:24	48:23 63:2,7 106:2
present 2:20 9:13	printout 120:6,9	properly 32:15	
46:16 50:9 53:3	prior 11:24 61:23	33:15 71:14,15	106:5 115:10,12 116:5
62:19,21 80:11	77:19 90:12 93:11	protective 47:18	
118:23 126:22	109:3 115:9 125:15	protocol 13:14	qualifies 16:7
presented 22:5,14	privilege 11:9 61:9	131:16	quarantined 47:3 query 14:18
22:22 61:17 79:21	132:5	provide 14:22 65:12	- •
88:23 92:9,9 103:13	privileged 131:23	68:25 83:18 116:6	question 16:11 17:20 20:4 23:5,12
123:12	probably 5:8 12:4	provided 10:11 30:8	24:23 25:5 28:19
presently 92:21	32:3 35:24 36:9	41:8 46:6,25 69:11	42:14 49:17 53:6,14
97:16	119:18 122:15	77:3,4 86:16 91:7,9	59:24 61:6,14 69:18
preservation 90:9	124:14	92:11,13 131:19	69:25 70:2 71:25
preserve 3:16	proceed 61:5	132:8 134:20,22	72:17,18,21,22
preserved 92:20	process 39:15 41:21	135:7	73:24,25 74:3,4,7
presumptive 134:19	83:7 88:11,21 89:22	provides 46:13	74:13,24 75:3,6,7
presupposes 58:21	115:3 119:23 124:9	101:19	81:9,14 98:17 99:23
prevented 51:11	124:17 125:13	providing 86:19,20	102:13,17 105:8
previous 61:14	127:12 131:11	86:22,24	122:12 139:9
121:12	processed 90:6	proving 20:12	questions 13:24
previously 98:21	processing 55:17	provision 11:6	14:3 24:13 27:9
primarily 13:20	56:6	111:25	72:14,16 87:17
15:9 40:18 62:2	produce 40:24 41:2	public 1:22 4:14	115:17,19 120:22
67:2,25 77:15	produced 23:6,9,15	143:15 144:8	128:23 129:22
123:25	72:7 75:24 80:6,8	146:25	130:18 131:5
primary 6:14 25:17	131:12,15 132:2,3	publicized 49:25	133:23 135:19
43:8 49:22 62:13	product 89:16	pull 117:2	138:9 140:3 141:11
66:5 67:9 68:4	production 48:6	purported 30:5,7,15	143:3
124:23	131:17	30:23 32:14 73:22	quibbling 120:10
print 10:12 94:24	profess 33:12	76:4	quickly 122:22,22
95:21 100:3,12,19	proffer 113:13	purpose 59:23 69:23	quite 24:11 71:10
100:19 101:14,19	proffered 21:24	126:2 130:21	122:24
103:5,8,12 107:7			122,21

[quote - resulting] Page 17

augto 50.6	manual 11,12 16,12	144.17	101.10 106.16 17
quote 58:6	record 11:13 16:13	144:17	101:10 106:16,17
quoted 57:25	25:2 76:13 126:17	relating 88:4	113:17,18,22 114:4
r	records 12:3 66:16	relation 135:13	116:21 117:3,6,13
r 2:2 47:14 76:16	67:20,21	relationship 77:25	117:21 118:2
144:2	recoverable 89:18	79:11,19	120:19 122:23
ran 86:14	red 18:21 19:3 125:9	relevant 64:10 69:6	123:15,18,21 124:6
rate 11:21,21	reduce 39:14,16	69:10 71:20 77:11	125:5 127:24 137:7
reach 82:9	40:3,8 138:21	relied 5:13,15,22,24	137:16,17
reached 5:16 69:2	reduced 139:23	89:5	reported 51:6 75:14
104:22	140:14	rely 83:6	reporter 1:21
read 15:2,4,4 16:13	refer 126:4	remember 67:2	132:11 144:7
24:25 25:2 37:25	reference 111:17,20	remote 45:10 50:19	reporting 146:2
	111:21,22	52:8	reports 5:23 38:21
38:4,7,12 54:9	referenced 41:6	remotely 50:12	65:12 87:23 112:5
56:15 57:22 122:2,3	72:8 111:6	51:15	114:18 115:6
122:5,6,9,16,21,21	references 32:25	removed 132:6	representation
134:11	82:15,18,25 92:10	rendering 121:11	121:16,19
reading 37:10 39:4	92:15	repeat 16:11 24:23	represented 18:25
45:20 101:9	referred 36:9 61:13	38:16 59:7	request 3:22,24
realize 79:9 115:3	93:20 109:15 131:6	rephrasing 72:2	requested 14:19
really 124:18	134:18 137:5	report 5:13,14,19,19	88:8
reason 29:10 146:7	referring 28:4 58:8	5:25,25 6:3,6,12	requests 145:7
reasonably 73:21	58:11 61:25 133:16	7:19 11:15,19,25	required 27:9 54:24
reasons 30:2,9,13	135:12,19 137:15	12:15,23 13:8,22	research 54:10
63:12,19 109:25	138:11	15:3,14 17:16 20:6	56:14 116:17
111:2 139:5	refers 134:17	20:9,15,16,24 23:25	reside 45:3
recall 15:8 17:6	refine 124:17	, , ,	
37:21 59:2,3 60:23		25:13,25 26:15	resizing 36:7
62:5 63:12 64:24	refreshing 15:9	29:15 30:5,18,21	resolution 98:13,17
66:3,4,22,25 67:19	refusing 75:4	37:24,25 38:5,17	98:18 99:13,14,20
68:10,13 76:23	regarding 24:3	40:10,12 41:5,7,10	99:25 100:3,13,21
77:22 78:2,11,14	27:21 31:20 40:11	41:12,23 45:20,23	100:24 101:7,15,25
79:5,7,8 81:5 83:3	56:8 68:12 114:20	45:24 46:3,6,9,14	102:3,6,8,23 103:3
85:10,11 107:24	129:9,23	46:25 47:5,16,18,20	103:6,8 120:4,6,8
108:2,2 128:14,21	regular 8:16 27:10	47:22 48:6 57:11,17	120:12 121:13,18
131:9,11 132:7	regularly 8:19 56:2	59:5,6,11,18,19,20	141:4,7,8,9
receive 7:2,5	relate 6:12	59:23 60:2,6,11,14	respect 5:17 19:8
received 6:5,16 8:7	related 6:13 11:16	65:15 68:20,21,21	respects 115:17
13:16 54:18 66:23	25:7 56:19 59:17,20	68:22,25 69:12,15	response 24:12
81:20,21 85:19	59:22,25 60:4 67:5	69:21 70:6,10,17,20	87:16
recess 76:10 126:12	68:14 70:14 71:13	71:6,23 72:9 73:2,9	responsive 71:15
130:24	71:13 73:21 76:22	73:16 74:12,16	rest 119:13
	77:2 79:11 80:6	75:15 86:18,19,21	result 138:14,23
recognize 133:13	91:3,25 93:5 113:22	86:25 87:2 88:2,3,6	resulted 84:5 140:4
recollection 15:10	115:21 118:16	88:7,8 94:15,20	resulting 40:3,8
	120:23 128:3	95:2,15,25 98:5,9	

[results - sent] Page 18

magnita 64.4 65.12	man 4.20 5.6 7	2010min 79.24 70.6	100.4 112.4 121.10
results 64:4 65:13	room 4:20 5:6,7 51:14 90:2 116:24	saverin 78:24 79:6	109:4 113:4 131:19 133:18 141:22
82:17 83:3,4,6,9,12		saving 41:21 139:25	
83:17 84:2,3,4,15	rootkit 49:21,23	saw 7:18 20:17,19	142:11,14
86:14,17,22,25	50:6 52:14 53:3,6,8	73:12 110:18	search 64:9 68:3,3
89:12,23 90:5	53:19	saying 74:5 122:10	71:12 77:3,5,14
retain 125:4	rootkits 49:9,14,17	122:19 123:2	80:25 81:5,6,15,17
retained 112:6	49:21,22 50:10	says 46:9 58:12	81:25 82:2,3,3 83:3
returned 86:12	52:20 53:11,16,24	134:11,13 135:23	83:7,8,9,12,14 84:4
128:12,16	54:2,4,5,12,18	scale 103:14 141:2	84:16,18 85:13,14
review 3:22,23 4:9	58:22,25	scan 39:24 42:3,3	85:15,17,19,20,24
41:8 84:17,22 89:22	rose 3:25 5:4,9 10:4	45:22,25 46:17,17	86:23 89:13,16,16
89:24 90:8 107:15	11:12 14:23 15:3	47:7,9 100:15 101:5	89:19,22,22 91:7,12
107:17,21 109:23	23:20 42:4,12,15	101:6 107:20 140:5	searched 64:8
123:13 125:23	47:20,22 48:10,21	141:11	130:16
126:2,8 131:22	57:10,18 60:21	scan0001 40:19 98:6	searches 13:11,14
reviewed 10:18,21	69:16 84:14 90:21	scan0001.tif 102:3	13:19 64:8,11,14
13:9 19:13 59:5,9	118:6 119:17,18	133:19	67:3 76:24 80:16
59:17,18,22,25 60:5	124:4,13 126:21	scan0002 98:6	83:5 85:20 86:9,10
60:10,13 63:6 83:21	127:7,9,12,24 128:6	scan0002.tif 102:7	86:12,14 89:14,15
83:24 85:11 86:13	128:10,14,23 129:4	scan0002.tif. 133:20	130:10
93:10 112:4,5	129:21 136:7,21	scan002.tif 102:18	searching 87:14
114:17 124:25	137:5,10,16 141:20	scanned 38:25 39:8	90:9
130:14	rose's 9:21,24	40:16,17,22,23	sec 130:22
reword 16:5	126:18 141:25	41:21 42:3,6,17,21	second 43:10 90:24
right 4:7 21:8 23:16	roughly 137:2,22	43:2 108:16 138:13	106:23,24 107:9,10
24:6,9 35:23 37:6	rule 3:24 42:23	138:19 139:6	107:16,18,19 134:5
40:5 41:16 57:15,18	ruler 100:4,14 104:2	140:14,16 142:5,10	section 111:23
76:8 79:8 94:9	104:5	142:13	see 14:10 17:24
95:12 96:16 97:8	rules 4:3,8 11:2	scanner 40:2,7,14	20:18 30:9,13 32:13
98:4,15 99:2,9,16	run 76:24 86:8	40:14,24 41:2	40:13 43:4,5 45:15
101:4,9,23 102:20	running 46:22 50:3	138:21	53:2 57:20,23 65:9
103:4,20 106:19	50:4 139:11	scanning 39:13,15	91:18 95:10 117:24
113:6 117:11,19	russian 88:19,19	39:16 43:9 45:7	132:23 133:11,12
118:24,25 119:8,11	S	138:25 139:3	134:6,9 136:11,12
120:5,20,21 121:21	s 2:2 47:14,14 76:16	scans 39:19	seeing 85:11 95:20
124:18 126:16	76:16 146:7	school 55:24	seen 19:13 44:11
130:23 134:4		scientific 34:5	79:2 80:4,7 85:18
137:19 140:24	san 62:16 127:14,17	scope 61:3	106:8,9,13,14
141:7,23 142:9,19	128:11,15,16 129:6	scrap 87:10	107:20 112:7,7,25
rights 50:2	sans 54:16,16	scratch 69:7 113:15	self 53:24
rise 29:12 30:2	sat 129:16	screen 97:2	send 139:17,21
rja 1:4	save 41:22 125:10	seagate 23:16,18	sense 13:6 17:12
road 2:6	139:4,25	42:18 43:2,5,12	19:2
rolling 76:11 126:14	saved 64:14 139:12	44:18,22 45:16,18	sent 66:21 81:19,21
130:25		46:16 76:2 108:16	109:14 139:20

sentences 124:11	sit 113:8	48:10,13,19,22 49:3	specific 8:10 11:2
sentences 124.11 separate 32:15	site 139:22	89:15 103:9 110:17	12:3 14:3 17:6
_		125:12 139:3	20:17 25:3 41:6
separately 125:10	sitting 19:12 48:12 51:14 52:22 81:6		
september 64:20		solely 83:6 106:16	69:23 114:25
series 13:3 54:20	110:23 113:11	somebody 12:6	124:11 138:5
server 125:7	129:15 135:9	14:12	specifically 12:5
sessions 9:3	six 4:5 123:16,22	sony 49:25,25 50:3,4	20:23 44:18 47:6
set 4:8 40:3,8 69:19	sixth 123:14 133:10	sorry 17:20 73:3	54:12 55:11 56:23
81:25 83:12,13	size 38:5,11 39:6,10	81:14 94:14	66:15 68:10 85:17
88:17 89:13 97:4	39:11,12,14,16,20	sort 14:20 32:2	107:4 115:8 127:15
103:7 144:11,22	40:3,8 41:15,22	34:11 54:21 89:6	129:16 131:21
settings 40:14	94:23 95:23,24 96:6	118:17 124:20	specify 39:9
138:20	96:6,10,11,12,17,20	source 37:18 39:23	speculation 42:11
shaking 24:5,11	96:23,25 97:11,11	42:22 68:14 85:4,11	spell 47:13
shape 76:6,6	97:13,24 98:7 99:6	85:12,14,23 86:3,5	spelled 76:16
sheet 146:2	99:10,11,12,18	86:11	spent 12:5,12,20
shoot 37:5	100:23 101:22	sources 88:24	spite 122:10
shortly 43:7	102:22 103:14	southwell 2:15 3:4,4	spoke 4:22 9:18,22
shoulder 110:23	117:24 118:5	3:12,21 4:7 9:12,22	spoken 10:4,6
showed 21:13 32:23	119:19,24 120:3	14:22 16:3,10 17:11	sporting 34:22
34:19 117:15	121:11 131:7,7	17:18 18:5 20:3,7	sports 34:20 36:8
showing 95:18	135:11,14,16,22,23	24:15 28:2 29:5	spread 53:24
132:17 133:23	135:24 136:3,20,21	42:10 57:12 58:8,13	spreadsheet 130:12
shown 35:9	136:24 137:18,22	61:2 69:17 70:7,21	spreadsheets 64:2
shows 115:18	137:23,25 138:10	72:10,13 74:14,20	squinted 122:25
sidley 109:15 112:24	138:14,15,15,16,19	74:25 81:13 94:16	ss 144:4
113:4	138:21,22 139:2,4,7	96:3 97:6 102:10	staff 14:18
signal 24:7,14,16	139:18,21 140:2,5,6	129:3 130:4,7,18,19	stage 90:5
signaling 24:20	140:12,13,14,15,17	131:3 132:9,13,15	stamp 117:6 118:17
signature 33:19	140:24 141:2,5,12	133:7 140:18,21	standard 87:21,22
signatures 33:25	sizes 139:23	141:10 143:5 145:5	standpoint 56:9
34:13 107:17,21	skyline 113:7	145:14	start 3:13 117:20
signed 47:18,19,21	slightly 98:7 102:18	space 89:19,19	started 9:19
significant 22:2	135:17	139:11	starting 22:22 72:11
significantly 135:25	slowly 122:24	speak 9:11,20 11:8	121:23
136:3,19	small 133:24	16:22 39:11,17	starts 57:21
signifies 134:16	smaller 41:22 94:23	82:13 109:3 110:19	state 1:22 3:3 144:3
signs 32:23	95:4,19 97:22	112:21 133:5	144:8
similar 5:5 36:11	135:25 136:3,20	141:25	stated 74:16 94:18
41:4	138:22,22 139:4,6	speaker 8:24	statement 15:24
sir 74:4 97:5,18	139:14,18 140:2	speaking 23:13	27:25 53:11,19,22
100:6,16 101:12	141:5,8,12	54:23 98:4 106:21	53:23 57:20,24 58:4
105:4 109:6 110:18	smallest 100:8	106:23 107:3	58:7,12,17
111:11	software 37:17	128:14 131:13	statement's 57:25
	41:16 45:12,14	137:2,22	

[states - think] Page 20

	1	1	
states 1:2	subsequent 22:23	system 12:9,16	termination 11:8
statistics 8:5 84:4	109:22 113:5	14:16 51:10,17,19	terms 19:9 26:12
stay 130:23	123:23 138:24	51:20 62:12	34:14 42:2 49:23
stenographically	subsequently 13:16	systems 51:3,7	71:8 77:3,5,14
144:14	39:15 132:5 140:14	t	79:25 81:7,25 82:3
step 88:21	140:16	t 144:2,2	83:9 85:16,19 86:10
sticks 78:12	successful 89:11	table 93:6	109:18,20,20 111:7
storage 62:8	sufficient 21:17	take 17:22 18:2 44:8	111:18 115:6 127:4
stored 67:17 90:12	42:23 142:19	57:9 63:20,22,23,25	142:13
90:16,16,19	suggests 112:8	64:21 76:8 87:3,6	testified 4:14 6:20
street 86:6	sum 111:23	87:13,18 90:21	6:24 98:21 114:19
streetfax 30:22	summary 8:9 69:2	126:9 130:20	114:23 115:8
31:12,25 32:11	88:10	139:20	141:20
35:13 37:24 68:9,15	supervised 13:17	taken 34:14 54:8,11	testify 34:23 105:2
71:3 72:6,24 73:7	48:7,11	56:13,16 76:10 90:6	testimony 10:13
73:14,22 74:10,12	supervision 48:4	126:12 129:18	29:14 32:5 95:23
75:11 79:12 81:3,4	124:4 126:25 129:5	130:24 144:13	105:9 106:15 115:7
81:12,22 82:16,19	supervisor 48:5	talk 5:4 6:10 9:7	116:9 129:8 141:14
82:25 85:4,12,13,16	support 132:20	12:18 15:25 26:17	141:24 144:11,13
85:18 86:2,3,4	supporting 30:8,15	37:24 106:2,6	testing 54:21 56:14
94:14,25 95:20	supports 15:24	talked 41:13 72:8	texas 63:12,19
106:25 107:5,9,19	sure 8:9 9:14 12:24	talking 21:8 25:4	text 89:21 107:15
108:5 110:2 111:24	19:11 24:24 28:6	33:3,4 47:7 49:12	118:19,22 119:12
112:13 114:7,14	29:7 35:4 52:11	52:15 68:6 76:20	121:22,24 135:13
131:5,6,19 133:16	55:24 56:10,21,22	92:23 96:8,16	135:17,18
133:21 135:20	61:6 66:12,15 71:7	101:24,25 107:4	thank 137:14 143:4
136:25 137:21	71:17,18 76:18	117:5 133:22	thanks 133:8
strictly 23:13 54:23	79:24,24 81:23	tall 103:25	theory 50:20,21
119:9	82:17,20 93:18	tape 3:10 76:11	thing 3:13 36:15
stroz 5:19 8:15,20	100:7 114:16,16	taught 16:24 94:4	72:5 74:22 93:17
8:21,25 11:15,20	117:4 122:13	teach 17:4	104:17 106:20
14:6,12 56:5 59:16	123:21 124:18	teaching 8:21 55:15	119:21 122:8
60:16 62:22 63:17	127:10,14 135:8	team 59:10	137:13
64:16 65:7 67:20	141:15	technical 49:2,3	things 24:18 28:14
84:2,8 92:5 94:20	surface 77:11	124:3	30:4,6 36:23 49:8
114:12 128:2 135:4	surfaced 86:9	techniques 54:17	96:9 112:14,17
structural 106:3,6	surprise 128:22	tell 5:12 19:25 21:14	121:14 123:19
structure 36:22	129:2,7,21,24 130:5	44:17,22 45:3 53:10	131:18
submitted 11:16	surrounding 28:10	56:22 57:15 87:18	think 4:7 12:19,25
30:11 68:22 132:20	suspect 75:4	87:20 94:10	13:2 18:3 20:16
submitting 6:6	sworn 3:11 4:13	term 18:11 19:7	21:23 24:13 25:14
11:25	143:11 144:12	25:24 63:4 111:21	28:17 29:20 31:14
subpoena 13:16	146:22	118:14 126:20	31:19 32:14,15,18
subscribed 143:11	synonymous 26:12		32:20 33:3,5,13
146:22			34:3,15 40:18 42:23

[think - unretouched] Page 21

	T	T	
51:19,24 54:15 61:5	time 4:8 5:8 9:16,18	transactions 18:12	twice 6:24
65:22 73:17 74:6	9:23 12:5,8,10,12	transcribed 144:15	two 9:6 12:25 19:16
75:17 76:5,6 79:2	12:15,22 14:8 15:2	transcript 3:23 4:9	22:5,25 26:14 27:13
79:15 85:6 92:3	15:4 19:12 52:6	5:10 10:18	27:16,23 28:3,20
94:7,11 95:5,6 96:8	55:6 57:7 59:7 63:6	transcription 123:6	30:6 31:24 33:3,4,8
96:20,22 97:22,23	66:6 67:13 70:24	123:10,13 125:19	33:16,24 34:18
98:3 103:17 105:25	77:24 78:4,10 90:8	125:21,23 126:2	35:14 37:23 38:2,10
107:22,23 114:22	93:7 108:21,23	transcripts 10:21,23	38:22,23 39:21
114:24 116:2	111:7 122:18,20	transfer 43:19,22,25	42:16 47:19,21 55:2
121:14,18 122:17	127:2 131:20,22	44:4,14	80:2,22 97:19 99:4
122:24 123:3 124:8	134:21 143:6	transferred 142:7	103:13,16 107:25
126:10 129:15	timekeeping 12:2,8	142:14	108:3 117:14 119:4
131:25 137:3,11	timely 4:5	translate 97:14	119:19 123:24
thinking 87:2 92:25	times 6:23,25 9:11	transmit 139:21	125:19 126:5,8
third 111:5	9:14 102:24 119:19	transpired 13:3	130:20 133:15
thought 70:17 81:14	today 6:12 9:8 14:9	transport 139:15	136:9,18 140:5,20
95:7	15:14 30:18 114:21	trial 6:25 115:7	141:9
thousand 12:19	116:21	116:9	type 52:9 57:4 61:25
three 103:25 116:2	told 23:21 87:3 88:3	triangle 19:5,7,13	types 17:8 46:9
140:5	88:5,5 94:11 112:2	trick 101:10	48:23
throw 69:4	112:10,12	tried 33:18 123:4,7	typewritten 136:21
tied 39:12,22	tool 36:11,18	trip 127:13,13,14	typical 40:25 55:22
tiff 31:24 33:10,23	top 57:12,15,20	129:6	121:7
35:14,16,17 37:13	58:14,19 79:3 117:7	trips 127:17,20	typically 9:3 87:6
37:15,23 38:10,22	118:10,15 119:3,5	trouble 133:5	u
38:24 39:8,10,12,22	121:5,23 136:4	trub 2:21	u 62:25
40:3,9 41:18,22	138:4	true 20:8 26:25	unaltered 34:24
42:16,20 94:24	topic 56:12,14 57:3	28:22 29:4 34:10	unauthorized 51:4,7
95:13 96:11,13,14	57:4	35:25 40:4 41:24	51:8,11,21 52:2,7
96:17,20 97:13,19	topics 8:13,16 17:8	43:13 44:24 45:8	uncommon 110:21
98:14,15,18,20 99:4	total 14:7 56:18	47:20 53:12 54:20	underlie 26:14
101:6,20,21 103:5	touching 36:7	54:22 86:5,15 94:15	underlying 106:18
103:16 106:16,18	traces 36:15,16,19	95:2 101:8 107:12	understand 24:19
107:18 108:6,12,14	track 14:17 57:6	110:7,18 112:20	61:22 69:21 71:21
108:20 110:4,12,14	train 16:12	118:16 121:13	88:20
110:20 112:15,17	training 6:16 7:2,6	141:17	understanding 37:9
112:19,21,22,23	8:6,8,12,13,16,20	truncated 118:12,23	65:10 106:11
113:6,7 117:14,25	9:2 16:20 54:8,11	136:23 137:6,9	130:15
118:5 120:3,18	54:13,13,14,18,19	try 27:12 36:22	unique 88:14,24
121:11,12 122:11	55:10,12,14,15,20	74:21 137:11	unit 2:7 100:9
123:12 125:19	55:22 56:4,4,7,13	trying 12:21 18:8	united 1:2
131:8,18 138:10,22	56:15,18 58:25	34:11,12 101:10	university 8:4
140:21,24 141:15	116:11	114:24 115:3	unretouched 37:7
141:18 142:3,18	trainings 6:5,7	turns 32:8	
	8 , .		

upload 139:20	view 52:21	87:15 108:10 110:7	working 12:20
upper 134:4	viewing 36:25	110:17 111:4	84:12 134:24
upside 134:7,13	vilan 2:21	122:24 125:8	world 50:14 73:13
usage 50:5 55:17	virtually 37:3	129:17 142:2	wrap 126:11
56:5 115:21,21	virus 45:21,25 46:17	western 1:3 23:20	write 33:18
usb 43:22	46:17 47:7,8	whereof 144:21	writing 124:23
use 3:14 17:22 20:8	visual 36:16	whichever 13:9	134:6 136:4
26:15 36:12 40:23	vs 1:7 146:5	widely 35:25	written 7:20,23
48:15,18 55:21,25		width 38:9	54:24 55:2,5 63:22
100:2 121:20	W	willing 34:22	65:13,15 87:25
125:13 126:20	w 4:12	windows 101:18	91:23 93:8,13 115:6
user 16:17 18:9,16	want 3:21,24 18:2	103:12	wrong 26:5 95:9
18:18 21:6,7 52:21	30:3,13 75:16 94:20	winklevoss 78:17	wrote 124:7,15
53:7,9 55:22	97:14	withdraw 102:16	,
user's 53:4	wanted 29:11,11	witness 3:11,23 4:13	X
	63:18 139:13,18	'	x 1:5,11 145:2
uses 38:13	wanting 124:17	6:20 24:7,14,17,20	y
utilities 46:23 53:2	warren 2:6	72:11 94:17 137:4	v 76:16
V	way 13:24 31:10	137:14 144:10,13	yeah 27:7 54:25
v 60:15	36:14 41:17 42:2	144:21 145:3 witnesses 10:19 11:2	118:25
valid 33:6	43:18 44:7,8 45:9	27:8,10	years 43:16
values 93:15,19	48:3 51:4,18,19	word 13:10 18:8	yesterday 9:20 10:9
variety 141:16	52:11,12,13 53:18	20:5,8 22:16 25:20	10:13,16 11:12
various 51:2 88:19	56:20 57:6 79:25	26:15 55:11,16,17	23:21 34:20 94:18
88:20	81:23 82:20 83:5,23	55:21,25 56:5,5,8	yesterday's 5:10
vastly 110:16	91:11 104:22	56:11,19,23 57:4	york 1:3,20,20,22
verification 33:2	110:15 112:20	86:2,6,10 119:12	2:14,14 113:7 144:3
verified 89:3,12	113:10 114:10	123:3,4,7,8,8	144:5,9 146:3,3
veritext 146:2	127:10,15 130:2,13	wording 122:23	Z
version 28:13 37:19	135:5 138:22,24	words 17:21 122:4,5	
75:24,25 95:4,18,19	139:4 142:12	122:6,8 124:15	zero 119:13
117:5,25 120:23	144:19	135:11	zuckerberg 1:8
125:10 133:24,24	ways 39:21 43:11,14	work 6:12 7:3 11:18	19:22 22:13 28:24 29:18 60:16,18,25
140:25	44:23,23 45:6,6	11:21,24 12:22 13:3	′ ′
versioning 125:13	50:16,19,21 51:22	13:17,21 14:7,21	61:12,17 64:19
versions 28:11	116:2 138:12,18	28:4,10 30:22 35:6	65:14 66:21,24
32:24 103:16	141:16,18	60:15 62:12 63:9	67:10,12 68:15
125:15	we've 41:2 80:16	64:7,21 65:2,3,24	70:14 71:3,12,18
versus 97:2,2	133:22	68:5,18 77:17	72:4,20,24 73:7,15
videographer 2:21	web 66:13 139:22	106:24,24 113:21	74:9 75:10 77:23
3:2,9,15 76:11	week 8:13	115:17 116:4,14,19	78:23 79:10,12,17
126:13 130:25	weeks 4:5 9:6 12:4	123:15,22	80:20,23 81:2,11,20
videotape 3:17	13:2,6	worked 47:24 59:14	82:4,7,13 83:21 109:22 111:9,17,22
videotaped 1:17	went 11:5 15:11	68:15 77:9,13 125:6	114:6,11 146:5
	58:20 70:11 71:21	125:6,9 128:25	114.0,11 140.3

zuckerb	erg's	s 60:19	9
(7.10)	~~ ~	111 10	
6/:18	80:5	111:19	