

IN THE CIRCUIT COURT OF THE SIXTH JUDICIAL CIRCUIT  
IN AND FOR PASCO COUNTY, STATE OF FLORIDA  
CRIMINAL DIVISION

STATE OF FLORIDA,  
Plaintiff,

Case No.: CRC-1400216FAES

v.

Division: 1

CURTIS J. REEVES,  
Defendant.

**MOTION TO EXCLUDE PROOF AND TESTIMONY PERTAINING TO THE STATE'S  
FORENSIC VIDEO EXPERT ANTHONY IMEL**

COMES NOW, the Defendant, CURTIS J. REEVES, by and through his undersigned  
counsels, and moves this Honorable Court to enter an order directing the exclusion of proof and  
testimony pertaining to the State's forensic video expert Anthony Imel regarding:

- (1) Any and all testimony and proof concerning or predicated on brightness measurements  
of pixels contained within video(s) and/or pictures originating from the data obtained  
from the Cobb Grove Theater's camera recording system; AND
- (2) Any and all modified videos and/or pictures subjected to the bicubic interpolation  
smoothing algorithm.

As grounds therefore, Defendant states as follows:

The State has listed Anthony Imel as an expert in video analysis. Mr. Imel has created  
unmodified and modified videos/images using the January 13, 2014 data obtained from the Cobb  
Grove Theater infrared motion-detecting camera recording system. Mr. Imel has also provided  
three written reports dated April 27, 2016, August 17, 2016, and December 14, 2016. The Defense  
deposed Mr. Imel on January 26, 2017. The deposition transcript is attached to this Motion.

**ANTHONY IMEL'S BRIGHTNESS MEASUREMENTS ARE IRRELEVANT AND  
PRESENT THE POTENTIAL FOR UNDUE PREJUDICE, CONFUSION OF THE  
ISSUES, AND THE MISLEADING OF THE FACT-FINDER**

The Defense seeks to exclude any and all testimony and proof concerning or predicated on brightness measurements of pixels contained within video(s) and/or pictures originating from the data obtained from the Cobb Grove Theater's camera recording system. Mr. Imel's brightness measurement calculations of the lighted objects are irrelevant to any material fact before the Court. If admitted into evidence, they present the unacceptable potential for the creation of undue prejudice, confusion of the issues, and the misleading of the fact-finder. Even by Mr. Imel's own admission, the brightness measurements serve no useful purpose: they support no reliable inference and they do not tend to prove any material fact.

In both his December 14, 2016 report and at his deposition, Mr. Imel stated/testified that he had conducted "spectral highlight" brightness measurements of lighted objects depicted in footage of Camera 11<sup>1</sup>. At the deposition Mr. Imel initially defined spectral highlights as "a light object within that scene." *Imel Depo. Tr.*, at 243. He later admitted that he incorrectly used the phrase "spectral highlight" to describe the lighted objects. *Id.* at 315-18.

The correct phrase to describe the lighted objects is, in fact, "specular highlight." At the deposition, Mr. Imel was also unable to state or provide a definition of specular highlight. He initially stated that:

A: [s]pecular highlight I guess is just the origination of what it is. So specular highlight is a visual, and I guess the other one – I'd have to get the definitions. But someone smarter than me told me what the difference was.  
*Imel Depo Tr.*, at 316.

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1 If looking at the movie screen, there were infrared motion-detecting cameras positioned at an elevated height on both the left and right walls of the theater. Camera 11 is the camera on the right wall. Footage from Camera 11 was admitted into evidence at the February 2014 bond hearing.

He acknowledged that knowing the definition of “specular highlight” is important for a forensic analyst with the FBI. *Id.* at 318<sup>2</sup>. Mr. Imel had previously never opined nor testified on any issue pertaining to specular highlights. *Id.* at 401.

Mr. Imel used a computer software tool called “Curves” and measured the brightness level of these aforementioned specular highlights. *Imel Depo. Tr.* at 320. The software tool’s brightness measurement scale runs from zero to 255. *Id.* The 256 different possible values represent the number of distinct shades between pure black and pure white. *Id.* at 321.

In his December 14, 2016 report, Mr. Imel stated that during portions of the Camera 11 video footage (timestamped as 13:19:46.446 to 13:26:14.679), he found multiple instances of specular highlight images that “appear to be linked to the shoes of REEVES.” *Imel Report*, Dec. 14, 2016, at 2 (emphasis in original). At his deposition, Mr. Imel stated his use of the word “appears” indicates that he is rendering an opinion. *Id.*, at 222.

Imel further stated he measured the brightness of the purported specular highlights from this time period of 13:19:46.446 to 13:26:14.679. His brightness measurements of these specular highlights ranged from 150 to 205. *Id.*

In his December 14, 2016 report, Mr. Imel also stated that during portions of the Camera 11 video footage (timestamped as 13:26:25.342 to 13:26:946), he also observed lighted objects that “appear to be linked to the reflection from the shoes of REEVES.” *Imel Report*, Dec. 14, 2016,

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<sup>2</sup> Specular highlights are defined as “a bright reflection from a light source containing little or no detail.” *Forensic Imaging And Multi-media Glossary Covering Computer Evidence Recovery (CER), Forensic Audio (FA), Forensic Photography (FP), And Forensic Video (FV)*, at page 228 [[https://www.theiai.org/guidelines/iai-leva/forensic\\_imaging\\_multi-media\\_glossary\\_v7.pdf](https://www.theiai.org/guidelines/iai-leva/forensic_imaging_multi-media_glossary_v7.pdf)] (last accessed February 14, 2017)].

at 2-3 (emphasis in original). His brightness measurements of these specular highlights ranged from 132 to 192. *Id.*

Mr. Imel ultimately rendered various opinions relating to the significance of the lighted objects that appear in the videos/images. In order to fully detail the grounds for exclusion, all three of Mr. Imel's opinions on the issue are reviewed below.

Regarding the first opinion: Mr. Imel rendered a lay opinion that, based on his ability to visually observe the videos/images, he believed the lighted objects between 13:26:25.342 and 13:26:25:946 are near Mr. Reeves' legs, and that Reeves' legs were moving. *Id.* at 381-87. At the deposition, the following exchange occurred:

A: So I've been reviewing video as an electronic specialist for security for the Air Force, as a federal agent for what, 14, 15 years, watching criminals, and installing CCTV systems. I can visually look at what's going on in a video and discern what's going on for my own needs. And in this case for this scenario, I can state that this specular highlight was tied to the movements of his legs and his feet.

Q: But that's not a scientific opinion, that's a lay opinion based on your ability to look at video, right?

A: Yeah. And if anybody else were to look at this, I'm sure that they would come up with the same opinion. *Imel Depo Tr.*, at 411-12.

He therefore rendered the layperson opinion that specular highlights that appear in the footage from 13:26:25.342 to 13:26:25:946 "was tied to the movements of his legs and his feet." *Id.*

Regarding his second opinion: at numerous points in the deposition, Mr. Imel contradicted himself and maintained that he was unable to opine on what is depicted in the videos and images. For example, Mr. Imel stated the following:

A: Again, I have no discernable reason or opinion as to what is going on in the content. I enhanced it, per se, and you can view it as well as I can. As far as what is



there beyond what I did on my third examination, I have no idea. I have no opinion. It is what it is.

Q: And do those two lights appear to be similar visually?

A: I have no opinion as far as what's going on as to the content of this imagery or the video, other than what I have done in the examinations. Your ability to view this imagery, view the video and discern what is going on is exactly the same thing I can do.

Q: Okay.

A: **So I'm not going to lead you, the jury or anybody else down a pathway that I'm not prepared to attempt – or prepared to testify to.** *Id.* at 234 (emphasis added).

Later, the following exchange occurred:

Q: Likewise, in this enhancement you're telling me, [l]ook, Rick, I have no idea what's going on there. I can't tell you what the objects were. I can't tell you anything about this particular image. Correct?

A: I have no opinion. I have no opinion about what action or what devices or what – anything that's going on in this video. You're viewing this the same way as I'm viewing this. You can have an opinion. I can have an opinion. Anybody that can view this can have an opinion. I have no opinion as to what is going on in this imagery right now. *Imel Depo. Tr.* at 263-64.

This second opinion, where he admits he has no opinion on what is depicted in the videos and images, clearly contradicts his first lay opinion conclusion that the lighted objects between 13:26:25.342 and 13:26:25.946 are near Mr. Reeves' legs and that the specular highlights “[were] tied to the movements of his legs and his feet.”

Regarding his third opinion: he discussed the potency of the lighted objects in 13:19:46.446 to 13:26:14.679 (between 150 to 205 brightness units) and 13:26:25.342 and 13:26:25.946 (between 132 to 192 brightness units). Mr. Imel acknowledged that he measured them based on the request of the prosecution:

A: Other than the visual enhancement of collecting all of those into a single video in which a layperson could view, **I was asked could I identify what the object was that was emanating and doing this white spot. I couldn't.** I said but the only thing I really could do is go through and do a measurement of that light source and give an array of measurements – a scientific measurement of that light source visually throughout that time period, several time periods that I've seen it, make measures and apply that. *Imel Depo. Tr.* at 315 (emphasis added).

Mr. Imel therefore acknowledged, both as an expert and as a lay person, that he has no opinion as to the identity of the object emitting or reflecting light depicted in the video/images. The brightness measures in his opinion were, therefore, neither probative as to any material fact nor reliable data for the purpose of any conclusion.

Accordingly, admission of any proof or testimony on the brightness measurements is prohibited, as it would have no probative value. §§ 90.401, 90.402, Fla. Stat. (2019). Further, given their absence of any probative value, admission of any proof or testimony on the brightness measurements raises the unduly high risk of unfair prejudice, confusion of issues, and the misleading of the fact-finder. § 90.403.

**MR. IMEL'S MODIFICATIONS OF POOR-RESOLUTION INFRARED CAMERA FOOTAGE FROM A LOW-LIGHT ENVIRONMENT WITH AN UNKNOWN ALGORITHM ARE NOT FAIR, ACCURATE, AND RELIABLE DEPICTIONS**

Both the State's and Defense's forensic video experts have created enlarged and modified videos and images in this case. The Defense's experts created, for ultimate presentation to the fact-finder, modified videos and images by adding pixels through a process called "nearest neighbor." This modification method involves the software user selecting the pixels (s)he wishes to enlarge. After selecting the targeted pixels, the nearest neighbor algorithm then adds identical pixels to the top, left, right, and/or bottom of the selected ones, with each selected (original) pixel forming a new square box of perfectly identical pixels. This process ensures that the added pixels

are exact replicas of the pixels that are being enlarged, therefore retaining the identical details of the original image. Both the quantity of pixels added as well as the color/grayscale of the new pixels can be determined with perfect accuracy and precision. Ultimately, the enlargements through nearest neighbor are exact replicas of the original selected image.

Mr. Imel's modified videos and images were subjected to the "bicubic interpolation smoother" method. *Imel Depo. Tr.* at 119. This process involves the software user selecting specific pixels to enhance. The bicubic interpolation smoother then changes the colors/grayscale of the surrounding pixels using an algorithm unknown to Mr. Imel. Likewise, with this process the placement of the newly created pixels cannot be definitively ascertained. Ultimately, the bicubic interpolation smoother creates new pixels that are dissimilar to the ones in the original image.

Given the nature and quality of the footage from the Cobb Grove Theater camera recording system, Mr. Imel's use of the bicubic smoother renders the enhanced videos he created inadmissible. Unlike with the nearest neighbor method, the bicubic interpolation software user adds pixels to the image or video that never existed in the original image.

As an example: an enlargement of one of the original video images from 320 by 240 pixels (a total of 76,800 pixels) to 3000 by 2000 pixels (a total of 7,680,000 pixels) would produce an enlargement with only 1.28% of the original pixels present ( $76,800 \div 6,000,000$ ). Given this, over 98% of the pixels in the enlargement did not exist in the original image. In other words, 98% of the pixels in the enlargement video/image were created by the software. Significantly, these newly created pixels are of different coloring/grayscale.

This is highly problematic, as the recording system utilized an infrared motion-detecting camera. This camera, in limited-light environments, records objects based on the light they either

emit or reflect. In such environments, the final footage from the recording system makes it difficult, if not impossible, to distinguish (by visual observation) objects that are emitting light versus those that are reflecting it.

Given that the Defense contends that a lighted object depicted within the footage may be the cellular phone Chad Oulson threw into Mr. Reeves' face, the addition of a high percentage of pixels that were never in the original videos and images with an unknown interpolation methodology resulted in impermissibly distorted final products. This is because Mr. Imel's modified videos and images contain pixels that did not exist in the originals. Ultimately, Mr. Imel's modified videos constitute new evidence. Mr. Imel's enhanced videos and images therefore cannot fairly and accurately depict the scene.

The Defense's position on this issue is strengthened by the fact that this camera recorded footage in low resolution, i.e. in a small number of pixels. The creation and insertion of pixels of unknown coloring/grayscale to pre-existing pixels depicting small objects within low resolution infrared camera footage of a low-light environment cannot yield fair, accurate, and reliable modified videos/images. Further, the scope and extent of the modifications must be ascertainable to avoid undue prejudice or the misleading of the fact-finder. As noted, however, the scope and extent of the bicubic interpolation smoother modifications cannot be reliably ascertained.

Any testimony or proof underlying Mr. Imel's use of the bicubic interpolation smoother does not satisfy the reliability requirements for admission of expert testimony and proof. "In 2013, the [Florida] legislature amended section 90.702 with the intention of adopting 'the standards for expert testimony in the courts of this state as provided in *Daubert v. Merrell Dow Pharmaceuticals, Inc.* [citation omitted], *General Electric Co. v. Joiner* [citation omitted], and

*Kumho Tire Co. v. Carmichael* [citation omitted].” *R.C. v. State*, 192 So.3d 606, 609 (Fla. 2d 2016), *quoting* Ch. 2013-107, § 1, at 1462, Laws of Fla. (Preamble to § 90.702). The amended section 90.702 is patterned after Rule 702 of the Federal Rules of Evidence. *Id.*

As amended, section 90.702 (titled “Testimony by experts”) reads as follows:

If scientific, technical, or other specialized knowledge will assist the trier of fact in understanding the evidence or in determining a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify about it in the form of an opinion or otherwise, if:

- (1) The testimony is based upon sufficient facts or data;
- (2) The testimony is the product of reliable principles and methods; and
- (3) The witness has applied the principles and methods reliably to the facts of the case.

Federal Rule of Evidence 702, in turn, was “amended in 2000 to reflect the holdings in [*Daubert*], [*Joiner*], and [*Kumho Tire*].” Ch. 2013-107, § 1, at 1462, Laws of Fla. (Preamble to § 90.702). This is significant for the purposes of determining whether expert testimony is admissible in a Florida state court, because “[w]here, as here, a Florida evidentiary rule is patterned after its federal counterpart, federal cases interpreting comparable provisions are persuasive and routinely looked to for interpretative guidance.” *L.L. v. State*, 189 So.3d at 255 (citations and internal quotations omitted) (emphasis added). Consistent with (i) this interpretative principle, (ii) the plain language of section 90.702, and (iii) the legislative intent behind section 90.702, *Daubert*, *Joiner*, and *Kumho Tire* (what the Second District refers to as the “the Daubert trilogy”), articulate the evidentiary standard for admission of expert testimony in Florida state courts. *Id.* at 256.

Under *Daubert*, as adopted by section 90.702, the Supreme Court imposed on trial courts a duty to conduct a three-part inquiry when considering whether to admit expert testimony. *City of*

*Tuscaloosa v. Harcross Chem., Inc.*, 158 F.3d 548, 562 (11th Cir.1999). The three parts, or three questions, for the trial court to consider, are:

- (1) Is the expert qualified to testify competently regarding the matters (s)he intends to address?;
- (2) Is the methodology by which the expert reaches his/her conclusions sufficiently reliable as determined by the sort of inquiry mandated in *Daubert*?; and
- (3) Will the testimony assist the trier of fact (through the application of scientific, technical, or other non-scientific specialized expertise) to understand the evidence or determine a fact in issue? *Id.*

The use of the bicubic interpolation smoother (i) is unreliable under *Daubert* and (ii) will not assist the fact-finder to reliably understand the evidence or determine a fact in issue.

First, under *Daubert*, Mr. Imel does not have sufficient familiarity with the algorithm underlying the bicubic interpolation smoother. When a methodology for analyzing data is unknown, the proponent of the expert proof or testimony relying upon said process will be unable to establish that it is indeed reliable.

Second, given that Mr. Imel does not know in any sufficient detail how the bicubic interpolation smoother operates, he also cannot opine on its error rate.

Third, the reliability of the bicubic interpolation smoother is not known to have been critiqued in any peer-reviewed journals. Accordingly, any videos or images subjected to the bicubic interpolation smoother methodology are insufficiently reliable to be admitted.

Additionally, videos and images subjected to the bicubic interpolation smoother will not aid the fact-finder. On the contrary, it will mislead and confuse the fact-finder in a prejudicial

manner.

The bicubic interpolation smoother's creation and insertion of substantial quantities of pixels of uncertain coloring/grayscale ultimately renders it into new evidence. *Bryant v. State*, 810 So.2d 532, 537 (Fla. 1st DCA 2002), *quoting United States v. Beeler*, 62 F.Supp.2d 136, 148 (D.Me 1999) ("rerecordings that are enhanced so that the images are clearer to depict [sic] are also 'duplicates' so long as the tapes accurately reproduce the original images on the tape.") (emphasis added). Newly created video surveillance footage or images of an event cannot be useful for the fact-finder, because they depict a distorted and misleading version of the actual events. In other words, the fact that the modified videos and images are not fair, accurate, and reliable depictions of the theater means they serve no useful purpose for the fact-finder.

Therefore, in using the bicubic interpolation smoother, Mr. Imel failed to produce admissible modified videos and images. Accordingly, Mr. Imel's modified videos and images should not be admitted into evidence.

### CONCLUSION

This Motion should be granted, and the following items should be excluded from admission into evidence:

- (1) Any and all testimony and proof concerning or predicated on brightness measurements of pixels contained within video(s) and/or pictures originating from the data obtained from the Cobb Grove Theater's camera recording system; AND
- (2) Any and all modified videos and/or pictures subjected to the bicubic interpolation smoothing algorithm.

### CERTIFICATE OF SERVICE

**I HEREBY CERTIFY** that a true and accurate copy of this has been furnished by electronic delivery to the Office of the State Attorney for the Sixth Judicial Circuit, c/o Glenn Martin, Esq., at glenmartin@co.pinellas.fl.us and via U.S postal service at P.O. Box 5028, Clearwater, Florida 33758 on this 30th day of June 2020.

/s/:Richard Escobar

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Attorney for Defendant



Exhibit A:  
FBI Report of  
Examination  
dated 12/14/16



OFFICE OF THE STATE ATTORNEY  
SIXTH JUDICIAL CIRCUIT OF FLORIDA  
PASCO AND PINELLAS COUNTIES

**BERNIE MCCABE**

State Attorney

December 21, 2016

RICHARD ESCOBAR, ESQ.  
ESCOBAR & ASSOCIATES, PA  
2917 W. KENNEDY BLVD., SUITE 100  
TAMPA, FL 33609

State vs. CURTIS JUDSON REEVES  
CRC14-00216CFAES

Dear Mr. Escobar:

Please find enclosed the most recent FBI report.

Sincerely,

BERNIE MCCABE, State Attorney  
Sixth Judicial Circuit of Florida

  
Glenn Martin  
Assistant State Attorney

GLM/bp

Enclosure

IN THE CIRCUIT COURT OF THE SIXTH JUDICIAL CIRCUIT  
OF THE STATE OF FLORIDA IN AND FOR PASCO COUNTY  
CRC14-00216CFAES

STATE OF FLORIDA

V.

CURTIS J. REEVES

ADDITIONAL LIST OF DOCUMENTS  
(Rule 3.220, Florida Rules of Criminal Procedure)

The following constitutes an additional list of the documents known to the State Attorney which may be relevant to the offense charged or to any defense of the person charged with respect thereto:

FBI Report of Examination, dated December 14, 2016, Case ID: 356E-TP-4392101,  
Request # HQQ151001002ADO, Examiner: Anthony R. Imel, Operational Technology Division,  
Forensic Audio Image Analysis Unit (3 pgs.)

CERTIFICATE OF SERVICE

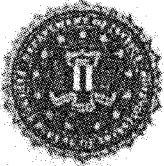
I HEREBY CERTIFY that a copy of the Additional List of Documents was furnished to Richard Escobar, Esq., Escobar & Associates, P.A., 2917 West Kennedy Blvd., Ste 100, Tampa, FL 33609, Attorney for the Defendant by U.S. Mail this 22<sup>nd</sup> day of December, 2016.

BERNIE McCABE, State Attorney  
Sixth Judicial Circuit of Florida

By

  
Glenn L. Martin, Jr.  
Assistant State Attorney

Disc. 12/22/16



Federal Bureau of Investigation  
Digital Evidence Laboratory

ERF Building 27958A  
Quantico, VA 22135

**REPORT OF EXAMINATION**

**To:** Tampa  
TP-9  
Attn: Special Agent James J. Bucenell

**Date:** December 14, 2016  
**Case ID:** 356E-TP-4392101  
**Request No.:** HQQ161028002

**Request Date:** October 25, 2016

**Ref. No:** Serial 23

**Title:** CHAD WAYNE OULSON - VICTIM (deceased);  
CURTIS JUDSON REEVES-SUBJECT;  
COBB MOVIE THEATER,  
6333 WESLEY GROVE BOULEVARD,  
WESLEY CHAPEL, FLORIDA;  
MURDER  
PASCO COUNTY SHERIFF'S OFFICE-IAVCA

**Date item(s) received:** November 30, 2016

**Item(s) submitted:**

**HQQ\_Q1:** File Copy of Item HQQ002792 from Lab #HQQ151001002 ADO - digital video (Examined)

**Request:**

Special Agent James Bucenell of the Tampa Field Office requested through an electronic communication dated October 25, 2016, that the Forensic Audio, Video and Image Analysis Unit review the Q1 media submitted under Laboratory HQQ151001002 ADO, designated HQQ002792, to



determine the origin and brightness of questioned specular highlights within the submitted video. SA Buccenell further requested a review of the media to determine if OULSON is standing or sitting on camera 11 at time 13:26:25.379.

### **Summary of Results:**

The video containing camera 11 on item Q1 was reviewed to identify the questioned specular highlights and the position (standing or sitting) of OULSON at time 13:26:25.379. The video was electronically processed and seventeen specular highlight charts and three inter-frame comparison charts were produced.

### **Details of Examination:**

The Q1 media submitted under Laboratory HQQ151001002 ADO, designated HQQ002792, was reviewed to locate the questioned specular highlights recorded on camera 11. Sixteen BMP images were exported from the proprietary video player and electronically processed. The specular highlights depicted in the BMP images were measured to determine their intensity (brightness) and recorded. Seventeen charts were produced containing a processed full frame image, cropped image containing the specular highlight, and the brightness measurement. The position and relative brightness of the specular highlights were then compared, to determine the source of the specular highlight.

The Q1 video depicting camera 11 at 13:26:25.379 was reviewed to determine the position of OULSON (sitting or standing). Nine BMP images containing OULSON and two other individuals were exported from the proprietary video player and electronically processed. Three inter-frame comparison charts were produced. The relative position of OULSON was then compared to other persons and objects in the scene, to determine the position (sitting or standing) of the individual.

The seventeen specular highlight charts and three inter-frame comparison charts were recorded to a DVD-R and labeled Exam Results #3 (Item HQQ006717). Three copies of Item HQQ006717 were produced and three sets of the twenty charts were printed. One DVD-R containing reference files was produced and will be retained in the case file.

### **Opinions:**

Instances of specular highlights at 13:19:46.446-13:26:14.679 were located. These instances appear to be linked to the reflection from the shoes of REEVES and the brightness measurements ranged from 150-205. Similar instances of specular highlights were located at 13:26:25.342-13:26:25.946, which

HQQ161028002  
356E-TP-4392101

appear to be linked to the reflection from the shoes of REEVES. The measured brightness from these highlights range from 132-192. Of note, the highlights depicted at 13:19:46.446 and 13:26:25.879 appeared to be in similar positions, and both highlights had brightness measurements of 150. However, due to the limited resolution of the imagery, the source of the spectral highlight could not be scientifically determined.

Due to the limited resolution of the imagery, the lack of knowledge as to the position of OULSON'S feet, and the lack of knowledge as to the slope of the floor of the scene, no conclusion can be reached as to the position (sitting or standing) of OULSON.

**Derivative Evidence/Copies:**

HQQ006717:	DVD, Exam Results #3, One DVD Containing Image Comparison Charts, Spectral Highlight Charts and Exported Images
Copies of HQQ006717:	Three copies of Exam Results #3, three DVDs containing charts and images
Inter-Frame Charts:	Three copies of three inter-frame comparison charts
Reference Media:	One DVD-R containing reference media
Spectral Highlight Charts:	Three copies of seventeen spectral highlight charts

**Disposition of Items:**

Exam Results #3 (item HQQ006717), three copies of Exam Results #3 and three copies of the twenty comparison charts were forwarded to the Tampa Field Office on December 2, 2016, via FedEx. One DVD-R containing reference media was produced and will be retained in the case file.

Examiner:



Anthony R. Imel  
Operational Technology Division  
Forensic Audio Video Image Analysis Unit

HQQ161028002  
356E-TP-4392101

Exhibit B:  
Transcription of  
the Deposition  
of Anthony  
Imel (01/26/17)

**In The Matter Of:**  
*State of Florida v.*  
*Curtis J. Reeves*

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*Anthony R. Imel*  
*January 26, 2017*

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*Commonwealth Court Reporters, Inc*

**Min-U-Script® with Word Index**



Page 1

1           IN THE CIRCUIT COURT OF THE SIXTH JUDICIAL CIRCUIT  
2           OF THE STATE OF FLORIDA IN AND FOR PASCO COUNTY  
3           CRIMINAL DIVISION

4       STATE OF FLORIDA                                 )  
5       v.   )  
6       CURTIS J. REEVES,                                 )       Case No:  
7   )       CRC14-00216 CFAES  
8       Defendant.   )  
9   )  
10  
11  
12  
13                               DEPOSITION UPON ORAL EXAMINATION OF  
14                               ANTHONY R. IMEL  
15                               TAKEN ON BEHALF OF THE DEFENDANT  
16                               FREDERICKSBURG, VIRGINIA  
17                               JANUARY 26, 2017  
18  
19  
20  
21  
22

Page 2

1       Appearances:  
2  
3       STATE ATTORNEY, SIXTH JUDICIAL CIRCUIT  
4       BY: GLENN L. MARTIN, JR., ASSISTANT STATE ATTORNEY  
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19                               Counsel for the Defendant

20  
21       Also present:  
22           SSA Bryan Earl, Assistant General Counsel  
          Federal Bureau of Investigation

Page 3

1                               C-O-N-T-E-N-T-S  
2  
3                               WITNESS: ANTHONY R. IMEL  
4  
5       EXAMINATION BY:  
6           Mr. Escobar  
7  
8  
9                               E-X-H-I-B-I-T-S  
10  
11       No. 1 - Counsel Letters/Curriculum Vitae.....4  
12       No. 2 - Add'l List Documents & Tangible Evidence...4  
13       No. 3 - 12/14/16 FBI Report of Examination.....4  
14       No. 4 - Chart #2 Photographs.....338  
15       No. 5 - Chart #1 Photographs.....358  
16       No. 6 - Chart #3 Photographs.....360  
17       No. 7 - Spectral Highlight Chart #1 Photograph...367  
18       No. 8 - Spectral Highlight Chart #2 Photograph...368  
19       No. 9 - Spectral Highlight Chart #3 Photograph...370  
20       No. 10 - Spectral Highlight Chart #9 Photograph...379  
21       No. 11 - Spectral Highlight Chart #17 Photos....393  
22       No. 12 - Theater Cam 12 MOV Frames 2,221-2,283/  
          Theater Cam 11 MOV Frames 2,615-2,625/  
          Theater Cam 11 MOV Frames 2,778-2,866...422

Page 4

1           Deposition upon oral examination of  
2   ANTHONY R. IMEL, taken on behalf of the Defendant,  
3   before Deanna A. Arend, Registered Professional  
4   Reporter, a Notary Public for the Commonwealth of  
5   Virginia at large, taken pursuant to notice,  
6   commencing at 8:22 a.m., on January 26, 2017, at the  
7   offices of Fredericksburg Hospitality House &  
8   Business Center, 2801 Plank Road, Fredericksburg,  
9   Virginia.

10  
11           ANTHONY R. IMEL was sworn and deposed on  
12   behalf of the Defendant as follows:  
13                               EXAMINATION  
14  
15           (Whereupon, Defendant's Exhibit  
16   Numbers 1, 2 & 3 were marked for  
17   identification.)  
18   BY MR. ESCOBAR:  
19       Q   Please state your full name for the record.  
20       A   Anthony Russell Imel.  
21       Q   Mr. Imel, I have never had the pleasure of  
22   taking your depo before. I'd just like to go over

Page 5

1 just a couple of rules. Obviously the most important  
2 rule for me is going to be that you understand my  
3 question before you even attempt to answer it.  
4 A Okay.  
5 Q If for some reason you don't understand my  
6 question -- and that's probably going to happen, you  
7 know, throughout this proceeding -- just stop me and  
8 just say, Hey, look, Rick, can you rephrase it so I  
9 can be a bit clearer, you know, on the question?  
10 A Yes, sir.  
11 Q The other issue that's very important to me  
12 is that I want to know what you're a hundred percent  
13 sure of and what you're not a hundred percent sure  
14 of.  
15 A (Witness nods head.)  
16 Q Unfortunately, both for law enforcement and  
17 for lay people many times when you're asked a  
18 question, there's a natural tendency to want to  
19 answer that question, even though you may not be a  
20 hundred percent sure of the answer.  
21 A Yes, sir.  
22 Q And in a deposition like that -- like this,

Page 6

1 it's a -- you know, it's a big no-no unless you  
2 qualify that particular answer. And so if I ask you  
3 a question and you're a hundred percent sure of the  
4 answer, then tell me.  
5 A Yes, sir.  
6 Q If I ask you a question and you're not a  
7 hundred percent sure of the answer, you've got two  
8 options. Number one, tell me, Rick, I don't know.  
9 Number two, if you have some inkling but you're not a  
10 hundred percent sure of that answer, then tell me,  
11 Look, Rick, I'm not a hundred percent sure of this  
12 answer, but I think it may be this, this and this,  
13 and then we'll explore that a little bit.  
14 A Okay.  
15 Q Okay?  
16 A Yes, sir.  
17 Q Let's start off and I'm going to give you  
18 what's been marked as Defense Exhibit -- Composite  
19 Number 1, which is what was given to me by the State  
20 of Florida in discovery in reference to your  
21 qualifications, and I was given a CV that appears  
22 further back in the process of that particular

Page 7

1 exhibit.  
2 A Okay.  
3 Q So I'd like to start off, if we can, with  
4 your CV, and the first topic, obviously, being  
5 education. Let's go through that, if we can.  
6 You list in education that between July of  
7 1988 and May of 2000, you attended Air University.  
8 What is Air University?  
9 A So Air University is the community college  
10 at the time for the United States Air Force. They  
11 give college credits for any courses and classes that  
12 I take during my time as an active duty member of the  
13 United States Air Force.  
14 Q Okay. And it appears that you were there  
15 for approximately two years; is that correct?  
16 A This was the time at which it was  
17 accredited, as far as my degree. My training started  
18 in 1988 all the way to --  
19 Q Oh, May of 2000. My calculation error.  
20 A Yeah.  
21 Q Okay.  
22 A A little bit longer.

Page 8

1 Q Yeah, quite a bit longer. You started in  
2 1988. So that would have been on a part-time basis?  
3 A No, full-time. I mean, I was in the Air  
4 Force full-time. I was training consistently through  
5 that time. Every course and class that I took with  
6 the Air Force, that gave me credits towards the  
7 degree.  
8 Q Okay. Let me see if I can understand this.  
9 You started in 1988?  
10 A June 29th of 1988, I joined the United  
11 States Air Force.  
12 Q And was there a course curriculum for the  
13 degree that you obtained? You appear to have  
14 obtained an Associate's of Applied Science --  
15 A Uh-huh.  
16 Q -- in criminal justice?  
17 A Uh-huh, two of them. Two degrees.  
18 Q Two degrees?  
19 A Yes.  
20 Q Okay. And so tell me how that started in  
21 1988.  
22 A I started in basic training, and then I

<p style="text-align: right;">Page 9</p> <p>1 went into tech school. Tech school was 914 hours. 2 So many of those hours -- I think it's 914 hours. 3 I've got the certificate right here. But that is 4 accredited towards college credits through the Air 5 University. That is an accredited college. And at 6 the end of my accreditation, when I fulfilled all the 7 credits, they awarded me a degree. 8 Q Oh, I get it. So you were in training 9 there with the Air Force? 10 A Uh-huh. 11 Q And in that particular training, the 12 community college would give you credits for that 13 particular training? 14 A Yes. 15 Q Okay. So it wasn't like you went to the 16 actual community college and sat in a classroom? 17 A Well, there is in-classroom work that I do. 18 So in tech school I think I went to, like I said, 19 900 hours -- 20 Q Right. 21 A -- over four or five -- I think four or 22 five, maybe even six months. Every day, six hours a</p>	<p style="text-align: right;">Page 11</p> <p>1 one's 10 February 1989, 937 hours. That was my tech 2 school. So during this period -- 3 Q That was your tech school? 4 A Uh-huh. 5 Q And what do you mean by tech school? 6 A Technical training. 7 Q In what? 8 A Technical training is basically I'm going 9 to school for my job. So at this point I was a 10 wideband communications equipment specialist. There 11 is a course conducted at 3300th Technical Training 12 Wing at Keesler Air Force Base, Mississippi, at which 13 point I took 937.5 hours worth of training. 14 Q Okay. Next one? 15 A Let's see here. February 8th, 1980 (sic), 16 Sheppard Technical Training Center, 24 hours. This 17 is at RAF Lakenheath. 18 Q What's that? 19 A RAF Lakenheath? 20 Q Uh-huh. 21 A It's a base in -- Air Force Base in 22 England. So it was just a training course.</p>
<p style="text-align: right;">Page 10</p> <p>1 day going to class. And that portion was accredited 2 towards the degree, as well as getting to my position 3 in the Air Force. 4 Q Do you have a list of the actual classes 5 that you took during those -- I guess it's almost 6 12 years? 7 A I have some of them. 8 Q And what are they? 9 A Do you mind if I -- 10 Q Any time you need to refer to something, 11 just tell me, please, what you're referring to so 12 that I can kind of get an idea of how that works. 13 A Yep. So during the course of my military 14 career, they sent me to a multitude of classes and 15 courses over 20 years. 16 Q Okay. 17 A And those courses over a period of time get 18 accredited by government so -- and through this 19 accreditation process at Air University, certain 20 courses allow you to get credit toward a degree. 21 Q Gotcha. 22 A And over the period of time -- so this</p>	<p style="text-align: right;">Page 12</p> <p>1 Q In what subject? 2 A Let's see here. OJT supervisor trainer 3 course. 4 Q What's that? 5 A I was trained as an on-the-job training 6 trainer and supervisor. 7 Q Okay. Next? 8 A Let's see here. PACE repair systems, 48 9 hours. This was at RAF Lakenheath, England, 10 March 8th, 1990, 48 hours worth of training learning 11 how to solder electrical components. 12 Q Okay. 13 A Another one, so RAF Lakenheath, England, 14 40 hours worth of training on basic soldering 15 techniques in December of 1990. Again, learning how 16 to solder on electronic components. 17 Q Okay. 18 A Microcomputer familiarizations, so that's 19 MS-DOS and Enable, 40 hours. This was done at the 20 Air Force Base in Colorado, so Air Force Academy, in 21 Colorado Springs, 24 May 1991. And this is 40 hours. 22 Q Okay.</p>

Page 13

1 A Let's see.

2 Q Don't worry, I'm not going to make you  
3 go through all of them. I just want to get a flavor  
4 for --

5 A No, that's fine, that's fine. These are  
6 just basic ones when I was a young kid. The more  
7 senior ones --

8 Q We're going to jump to those pretty soon.

9 A Okay. Supervisor Safety Training,  
10 June 25th, 1991. It doesn't say where it was at.

11 Q Okay. Let's go to some of the most recent  
12 ones that you had while -- before you received your  
13 degrees. Especially if there was any in forensics,  
14 obviously.

15 A Okay. So let's see here. 13  
16 December 1996, Certificate of Training, Special Agent  
17 Basic Academy.

18 Q Okay.

19 A And that was the Air Force Office of  
20 Special Investigations. I was a Federal Agent with  
21 the Air Force Office of Special Investigations.

22 Q Okay.

Page 14

1 A A fundamentals course, so this a technical  
2 services course. So during my course as an agent, I  
3 was a tech agent, so during this time I learned  
4 covert surveillance, CCTV systems, GPS systems,  
5 audio/video installations, reviewing video, video  
6 enhancement, audio enhancement, GPS, location, that  
7 sort of thing.

8 Q And when was that?

9 A Let's see. I graduated 28 February 1997.

10 Q Okay. And what course -- what was that  
11 given by? What --

12 A Actually, it's the called Interagency  
13 Training Center. At that time it was run by the CIA.

14 Q Okay.

15 A Okay. Advanced security vulnerabilities  
16 investigations.

17 Q Okay.

18 A That's March 2nd to March 13th, 1998. So  
19 this is just computer investigations; vulnerabilities  
20 and security and computers.

21 Q Okay.

22 A Do you want to know about advanced covert

Page 15

1 neutralization of locking devices? I can --

2 Q I don't think so.

3 A -- pick locks.

4 Q I don't think so. There's no lock-picking  
5 here.

6 A Advanced Reid course, so interviewing and  
7 interrogation.

8 Q Mainly the forensic ones are the ones that  
9 I'd like to --

10 A Okay.

11 Q -- focus on, if you have anymore.

12 A Federal Law Enforcement Training Center,  
13 Glynco, Georgia, a photography training program.

14 Q What year was that?

15 A That was June 23rd, 2000.

16 Q Okay.

17 A Let's see here. Telephone systems. That  
18 was -- you don't want that one. Adobe Photoshop  
19 Advanced, 22 February 2002, Connect Learning. So  
20 that's a weeklong course in Adobe Photoshop Advanced.

21 Q Okay.

22 A Video analyst training, so that is a

Page 16

1 plug-in to Adobe Premiere for specific video  
2 enhancement tools used in Adobe Premiere. It was  
3 done by Intergraph Solutions Group. This was  
4 November 6th, 2002, down in Huntsville, Alabama.

5 Q Well, that would have been after your May  
6 of 2000. These were -- the courses that I think  
7 we're focusing on right now are the courses that  
8 allowed you to get your degree. It looks like --

9 A Okay. Well, most of the ones --

10 Q It looks like you listed here July of 1998  
11 to May of 2000.

12 A So that's when I was assigned the degree.  
13 So once I got -- or graduated the -- once I graduated  
14 from OSI Tech Services, then I took some CLEP tests  
15 and got the basic courses to get that degree. So  
16 those courses that I've told you before --

17 Q The ones that are before May of 2000?

18 A Yeah, yeah.

19 Q Okay. So let me ask you, in your CV, have  
20 you listed those particular courses in your CV?

21 A I -- probably not.

22 Q The ones for the -- for your Associate's

1 degrees?

2 A Probably not. If not -- there's probably  
3 some of them.

4 Q Can you look at them?

5 A Yeah.

6 Q Yeah, let's go through them, because I just  
7 want to make sure that -- I see, you know, you've had  
8 quite a few there. I just want to make sure that any  
9 of the ones that are in your CV went towards that  
10 Associate's degree. And I think we started in 1989  
11 with the communications and equipment course.

12 A Right. So if you look at the  
13 communications equipment, 1989; special investigative  
14 course; technical surveillance countermeasures;  
15 advanced crime scene photography; covert  
16 neutralization, all of these courses go towards that  
17 degree.

18 Q So I guess all the way up until the 1998  
19 Advanced Special Investigative course?

20 A Right. And then there's some training that  
21 I did not list in here, because it's not towards this  
22 type of investigative work. So there's specific

1 this. When you're applying for those degrees, there  
2 is not a curriculum that is geared towards receiving  
3 your criminal justice Associate's, and there's not  
4 one that is tailored towards your Applied Science?  
5 You just take these courses, and they determine at  
6 some point in time whether they're going to give you  
7 credit towards a degree?

8 A So the education office does have a  
9 curriculum and a course requirement to fill those  
10 degree, I guess, certifications.

11 Q Right.

12 A Once I fulfilled those degree  
13 certifications, they approved the degree.

14 Q So there is a curriculum?

15 A Yes. And I didn't bring that with me.

16 It's been a long time since I've done one like that.

17 Q Okay. And so tell me about applied  
18 science. What does that mean?

19 A It's electronics. So electronic equipment,  
20 electronics techniques, capabilities. The stuff that  
21 I learned in the Air Force from 1998 on forward.  
22 Basic electronics.

1 equipment, electronic gear that I used overseas,  
2 stateside for the Air Force. Satellite systems, that  
3 sort of thing.

4 Q So your testimony today is that, look,  
5 Rick, what I listed in my CV, starting in February of  
6 1989 and ending in June of 1998, are the courses that  
7 were specifically geared towards advancing my career  
8 in this field?

9 A In this field, yes.

10 Q The other ones were not?

11 A Specifically, so it's electronics training  
12 in general from 1988 all through today. But I had --  
13 I had to limit this thing. So if I put every  
14 training course that I had in here, it would be 30  
15 pages long and not many people want to read that type  
16 of CV. So...

17 Q Okay. Now, I see that you've indicated  
18 that you had both an Associate's degree in Applied  
19 Science, and then also an Associate's degree in  
20 Criminal Justice?

21 A Uh-huh.

22 Q Again, I want to try to get a flavor for

1 Q And what does that mean? What do you mean  
2 by capabilities?

3 A The use of electronics for communication,  
4 security.

5 Q What kind of electronics?

6 A So I used wideband security systems. I  
7 used base installation security systems, protecting  
8 nuclear weapons, base assets. That would be aircraft  
9 for the Air Force. Base security, satellite systems,  
10 ground base surveillance. Just about any type of  
11 electronics that I used during my course over  
12 20 years.

13 Q And criminal justice, just a general  
14 criminal justice --

15 A Yes, sir.

16 Q -- Associate's degree as we --

17 A As we know them.

18 Q As most of us know them?

19 A Yes.

20 Q Okay. So you completed that in the year  
21 2000?

22 A That's when they were --

1 Q And then --

2 A -- assigned to me, yes.

3 Q And then you have another listing Air  
4 University -- again -- Community College with the  
5 same dates. I guess that's because you have an  
6 Applied Science in Electronic Systems Technology?

7 A They were both assigned at the same time.  
8 So when I finally finished my degree program, or at  
9 least most of the classes, I just applied for both of  
10 the degrees, and they gave me just a couple of months  
11 apart from each other.

12 Q Okay. And so you have three degrees is  
13 what you're telling me then?

14 A Yes, two Associate's and a Bachelor's.

15 Q And the Bachelor's is in? Criminal  
16 justice?

17 A Crime Justice Investigations. Yes.

18 Q That appears to have taken place post-March  
19 and May of 2000. It says here --

20 A Yes, 2006.

21 Q -- December of 2006 through April of 2008?

22 A Yes.

1 Q Okay. So now you've got these three --  
2 you've got your Associate's degrees, and now what  
3 position are you holding in the Air Force? Is it the  
4 Air Force that you were in?

5 A I was at the time. I was a federal agent.

6 Q Okay. And we'll talk about that in a  
7 second. So tell me about Bellevue University?

8 A That was an online university that I took.

9 Q Online?

10 A Uh-huh.

11 Q Okay. Was it affiliated with the  
12 government?

13 A No, it's through Bellevue University.

14 Q Okay. So tell me about that. What was the  
15 course curriculum for a criminal justice  
16 investigations?

17 A A whole lot of reading, paperwork,  
18 discussions online, research. So a lot of it I had  
19 already done, because I was a federal agent for quite  
20 a few years. Just did a lot of reading and course  
21 work and the assignments that was assigned during  
22 that time. I think it was one course per month for

1 -- I think it was a 15-month career or a 15-month  
2 track.

3 Q Fifteen-month?

4 A But I brought it down, I think, to  
5 13 months, because I doubled up in my classes there  
6 at the end.

7 Q Yeah, it looks like you started in December  
8 of 2006, and you ended in April of 2008.

9 A Uh-huh.

10 Q Criminal justice investigations, what type  
11 of investigations?

12 A That would be criminal investigations. So  
13 interviews, surveillance, just actually doing the job  
14 versus most of your investigative careers or degree  
15 programs would be management. Mine was actually  
16 investigations.

17 Q Okay. Any forensics in that?

18 A I believe there were forensics, a portion  
19 of forensics in there.

20 Q And what type of forensics?

21 A Any type of forensics. So fingerprints,  
22 video, audio, GPS, crime scene. Just normal

1 investigations capabilities.

2 Q Okay. Other than those degrees that you've  
3 just listed, do you have any other degrees that  
4 you're either working on and have not yet completed  
5 or some that may not be reflected here in the CV?

6 A No, sir.

7 Q Okay. Let's go, if we can, while we're at  
8 it -- since some of these -- let's go to your  
9 professional experience, and let's try to tackle  
10 those or get those out of the way.

11 It looks like between June of 1998 in your  
12 CV -- and that's Defense Exhibit Number 1 -- through  
13 August of 2006, you were a Technical Service Regional  
14 Manager, comma, Federal Agent. Tell me what you were  
15 doing before that.

16 A So when I enlisted in the Air Force, I  
17 started off as a wideband communications equipment  
18 specialist.

19 Q What is that?

20 A So I maintained the communications  
21 capabilities of Europe. So I was stationed RAF  
22 Lakenheath. I maintained the digital European

Page 25

1 backbone of the military in Europe, all  
2 communications. Audio, digital, video, everything  
3 that was coming through the European area was  
4 funneled through RAF Lakenheath. So I ran and  
5 maintained basically the communication node there in  
6 England.

7 Q Okay.

8 A At the same time I worked -- it's called  
9 base installation security systems. I maintained the  
10 security systems for base munitions, alert aircraft,  
11 weapons of mass destruction storage areas, and that  
12 sort of thing.

13 Q Okay. And so you did that before you  
14 became this Technical Service Regional Manager?

15 A Yeah. So from England I moved to --

16 Q Wait, give me those dates, if you can.

17 A Oh, geez, 19 -- so in June of '88, I  
18 enlisted, went to basic training; spent, I think,  
19 four or five weeks at basic training; went to  
20 Keesler, Mississippi; spent four or five months at  
21 Keesler, Mississippi; and then I moved to RAF  
22 Lakenheath. I think that was 1989 that I moved to

Page 26

1 Lakenheath. Spent two years at RAF Lakenheath.  
2 Moved to Air Force Academy, Colorado Springs, and  
3 spent two years there.

4 Q Doing what?

5 A During that time I worked on their computer  
6 network systems, their ground-to-air communications  
7 for aircraft, public address systems for football  
8 games, soccer games, that sort of thing. And then,  
9 yeah, like I said, the computer systems.

10 Q Okay.

11 A From there I moved to Korea. That was Camp  
12 Red Cloud, Korea, which I worked at that point doing  
13 satellite systems and communication systems for  
14 deployments. I was about four miles away from North  
15 Korea on the border there. Deployed in the field,  
16 basically worked on communication nodes, satellite  
17 and what they called troposcatter systems.

18 Q How long did you do that?

19 A One year.

20 Q And until what date? Approximately. I  
21 know you're probably not going to be able to give  
22 me --

Page 27

1 A Yeah. When did I go back? I think I moved  
2 back in -- '88, '89, '90, '91, '92 -- '92 to '93, I  
3 think I was in Korea; '94 I moved to -- or '93 to --  
4 I moved there to RAF Uxbridge, England, and that was  
5 '94. '93, '94, right around there.

6 Q For what purpose?

7 A So I worked in the digital European  
8 backbone system again for Europe. I actually took  
9 care of all of the southern. So you have RAF  
10 Lakenheath. RAF Uxbridge was actually in London. So  
11 I took care of all of the communications systems  
12 south of London. So I basically drove around and  
13 took care of electronic nodes that were set up in  
14 different country areas.

15 Q Okay.

16 A At which point in early '96, I got  
17 recruited as an OSI tech agent.

18 Q What's that?

19 A OSI tech agent?

20 Q Yeah.

21 A Air Force Office of Special Investigations.  
22 I was picked up as a recruit to become a federal

Page 28

1 agent. They brought in a tech services regional  
2 manager, interviewed me, accepted my application as a  
3 federal agent.

4 Q And what does that mean when you become a  
5 federal agent?

6 A I raised my right hand and became a federal  
7 agent.

8 Q What are you doing as a federal agent  
9 different than what you were doing before?

10 A Well, I was actually a federal agent, so I  
11 looked for criminals, terrorists, investigations,  
12 just like an FBI agent, but it's for the military.

13 Q But you weren't doing that before? This  
14 was your first --

15 A I was accepted in in 19 -- well, '90 --  
16 early '96, I think it was. Mid '96 is when I  
17 recruited and started my training there.

18 Q Okay. And where does that career take you?

19 A So from there I went to Moreno Valley,  
20 California, at which point I spent two years there in  
21 investigations as a tech --

22 Q What year was that?



1 A So '96 to '98.  
2 Q To '98?  
3 A Yeah, it was Moreno Valley, California.  
4 March Air Reserve Base.  
5 Q And what did you do there?  
6 A So I was a regional tech services agent.  
7 Q What's that?  
8 A Took care of the Southwest United States.  
9 I think it was four or five physical states, doing  
10 criminal investigations and counter-surveillance  
11 work, technical surveillance countermeasures for the  
12 Air Force OSI. So I cooperated with other federal  
13 investigations. FBI, CEA -- or CIA, DEA for drugs,  
14 spies, counterterrorism. Just about any criminal  
15 case that came across our desk.  
16 Q Okay. Forensic work there?  
17 A I started doing -- we had a transition  
18 between analog to digital, at which point I started  
19 to do self-training for forensic work in digitizing  
20 analog to digital and then doing some enhancement.  
21 Q So that was really the start of your --  
22 A About there, yeah.

1 Q -- forensic investigations?  
2 A Yeah, about -- yeah, when I graduated and  
3 became an OSI agent, that's when I started it.  
4 Q And you're saying you were self-taught. In  
5 what manner?  
6 A I used off-the-shelf tools to enhance not  
7 only personal items --  
8 Q Off-the-shelf?  
9 A Yes.  
10 Q What do you mean?  
11 A That would be commercial software packages  
12 that they use that are commercially available to  
13 anybody.  
14 Q Which ones in 1998?  
15 A Oh. I wouldn't know off the top of my  
16 head. I'd have to go back and look. It's been a  
17 long time and have used multiple sets since then.  
18 Q Okay. So you did that for a couple of  
19 years. That puts you in '96 to '98, right?  
20 A Moreno Air Force Base.  
21 Q And what happens in 1998?  
22 A I moved to Sembach, Germany, and I do the

1 same thing from Moreno Valley to Sembach, Germany,  
2 taking care of criminal investigations,  
3 counterterrorism investigations in Europe, Southwest  
4 Asia and Africa.  
5 Q How long did you do that in Germany?  
6 A I did that for three years.  
7 Q So 2000 --  
8 A '98 to 2001.  
9 Q One?  
10 A Moved back in September.  
11 Q Forensics?  
12 A I was actually doing some of the video  
13 forensics and image enhancement through my training  
14 as a technical services agent. So we took Photoshop  
15 training during my course at the Interagency Training  
16 Center for enhancing photographs, digital  
17 photographs.  
18 Q And what year was that training?  
19 A So '97 is when I took my basic training,  
20 and that's when we started the official training in  
21 Adobe Photoshop and video enhancement.  
22 Q In '97?

1 A Yeah. So --  
2 Q And that would have been the technical --  
3 A Yeah.  
4 Q -- surveillance countermeasures?  
5 A Yeah, Interagency Training Center.  
6 Q Yeah.  
7 A Fundamentals course, January 6th to -- 1997  
8 to 28 February 1997.  
9 Q Okay. So now you're in Germany until 2001.  
10 Is your forensic experience there a bit more than it  
11 was, you know, back before that, or are you doing  
12 basically the same thing?  
13 A A lot more on-the-job training, so we do a  
14 lot more surveillance. The digital side started to  
15 come into play in -- I think it was '96 to '98 was a  
16 big transition in law enforcement from analog to  
17 digital. So that's when more digital enhancement of  
18 photography, video came into play. So it was more  
19 converting from analog to digital and doing minor  
20 enhancement in digital.  
21 Q Okay. So what happens now?  
22 A So September of 2001, I moved to San



Page 33

1 Antonio Texas, Randolph Air Force Base, and, again,  
2 technical services agent at Randolph Air Force Base,  
3 taking care of counterterrorism, criminal  
4 investigations in the South Central United States.

5 Q Basically the same thing you were doing in  
6 Germany, the same thing you were doing?

7 A It is a little bit more in depth in  
8 forensics. I got my first video forensics machine.  
9 The base purchased it for me. A video analyst  
10 system, Intergraph Systems, based out of Huntsville,  
11 Alabama. I started to run video forensics  
12 investigations out of San Antonio, helping the local  
13 police and federal agencies with video enhancement.  
14 I started to take up a lot more video enhancement  
15 courses, photography courses, Photoshop, Adobe  
16 Premiere, Video Analyst, audio enhancement training,  
17 and that sort thing.

18 Q It looks like -- at least on your CV --  
19 that in 2002 you took three of those courses.

20 A It's a possibility. I'd have to go back  
21 and check more of my certificates. A lot of the  
22 courses repeated. So as Photoshop would come out, I

Page 34

1 would go and repeat the Photoshop, the Adobe Premiere  
2 courses. And with Adobe -- or, excuse me, Video  
3 Analyst, I went down there three, four or five times  
4 over the course of several years as they came out  
5 with more iterations. I helped train the course. I  
6 helped write a guidebook for doing video forensics  
7 using their software. It was just an ongoing thing.

8 Q Okay. 2001 until?

9 A I moved out of there -- 2001, and I think  
10 it was 2004. Let me see here. Because I bounced  
11 back and forth in San Antonio from active  
12 investigations as a federal agent, and I worked at  
13 the Force Protection Battlelab, doing research and  
14 development for Air Force OSI, at Lackland Air Force  
15 Base. So between the two, I went from an active  
16 agent at San Antonio at Randolph Air Force Base. I  
17 deployed for six months to Iraq and Qatar. And then  
18 I went down to the Force Protection Battlelab at  
19 Lackland Air Force Base, I think for about a  
20 year-and-a-half.

21 Q Okay. Well, let's start with San Antonio.  
22 How long in San Antonio?

Page 35

1 A Well, from that point from 2001 --

2 Q I think you said 2001 to 2004, were you in  
3 San Antonio?

4 A San Antonio as a whole, yes.

5 Q Okay.

6 A Randolph Air Force Base, yes, and then I  
7 transferred down to Lackland, which is still in San  
8 Antonio. It's just a different base.

9 Q Okay. What's next?

10 A So as I was down there in Lackland Air  
11 Force Base, Research and Development Laboratory, I  
12 started to get into research and development,  
13 computer simulations, UAVs.

14 Q What does that mean, research and  
15 development?

16 A Research and development. So they -- at  
17 the Force Protection Battlelab, they would take  
18 off-the-shelf components that are open off-the-shelf  
19 and convert them into military use. So we would go  
20 out and use simple things that law enforcement would  
21 use and convert them into a law enforcement  
22 capability; some things that the private sector would

Page 36

1 use and convert them to a law enforcement or military  
2 capability.

3 Q Like what?

4 A UAVs. So I did Unmanned Aerial Vehicles  
5 that the Army used, brought them into OSI, became a  
6 UAV pilot; used in criminal investigations and then  
7 for deployments so our people wouldn't get blown up  
8 as they go into an area.

9 Q And how long doing that?

10 A So I did that from -- I believe it was --  
11 so I got there in 2004. I think that was 2005, maybe  
12 2006, at which point I became the technical services  
13 superintendent or tech chief back up at Randolph Air  
14 Force Base.

15 Q What year was that? 2005?

16 A No, that was probably 2006.

17 Q 2006?

18 A Yeah, when I became the tech chief at  
19 Randolph.

20 Q A tech chief? What is a tech chief?

21 A Tech chief is -- in civilian terms, is the  
22 superintendent. I was in charge of the shop,

1 technical services shop, and ran the investigations  
2 in the South Central United States for my office. So  
3 electronic surveillance, counter-surveillance,  
4 technical surveillance countermeasures, as well as  
5 video forensics.

6 Q Okay. How long did you do that?

7 A Until 2008, when I retired from the Air  
8 Force.

9 Q Do you have any rank?

10 A I'm sorry?

11 Q Did you have any rank?

12 A Master Sergeant.

13 Q Why did you retire?

14 A Twenty years in the Air Force.

15 Q It sounds like you liked it.

16 A I did.

17 Q Just time to move on?

18 A Twenty years in the Air Force, it's time  
19 for me to move on.

20 Q Okay. And so what did you do then? And  
21 what month did you retire?

22 A On the books I retired July 1st, 2008. I

1 had 90 days before, so I think I was actually  
2 released in April.

3 Q In April of 2008?

4 A Uh-huh.

5 Q Okay. So now what do you do?

6 A So I got hired by the State Department,  
7 actually a contract program called Paradigm  
8 Solutions.

9 Q Before we start there, it looks like --  
10 does your CV --

11 A There is a typo.

12 Q Yeah, I was just going to say --

13 A 2010 should be 2008.

14 Q Yeah, okay.

15 A Sorry.

16 Q So for your -- it should be 2008, right?

17 A Yep. Sorry, I just caught that.

18 Q So now you retire, what do you do?

19 A So I was hired to run -- hired by Paradigm  
20 Solutions, a contractor for the State Department.  
21 And I became the video forensics section supervisor  
22 for their laboratory.

1 Q Who is Paradigm Solutions?

2 A Paradigm Solutions was a contractor --

3 Q You may want to slow down a little bit. I  
4 see -- I see the tension in her -- are you having a  
5 difficult time?

6 THE COURT REPORTER: No.

7 MR. ESCOBAR: No? You're okay?

8 THE COURT REPORTER: I'm okay, as long as  
9 you don't talk over each other.

10 A Paradigm Solutions was the main contract  
11 provider for the State Department that ran their  
12 computer investigations forensic laboratory at that  
13 time.

14 Q Private company?

15 A Yes.

16 Q Okay. And so you went to work for a  
17 private company that was doing work for?

18 A The State Department.

19 Q The State Department?

20 A Yes, sir.

21 Q The main function of Paradigm Solution was?

22 A The main function was to provide

1 contracting services to the State Department. In  
2 this case, in lieu of the video forensics section  
3 supervisor for myself, their main function at that  
4 contract right there was to provide computer  
5 forensics.

6 Q Computer forensics?

7 A Yes.

8 Q And you were hired in what capacity?

9 A As their -- as the supervisor and -- or  
10 section supervisor and examiner -- main examiner for  
11 the State Department, to run that section.

12 Q To run that section?

13 A Uh-huh.

14 Q And that was in 2008?

15 A Yes.

16 Q How long did you do that?

17 A August of 2010.

18 Q Okay. Now, it looks like there appears to  
19 be a course or two that you may have taken during  
20 that 2008, 2009 period of time; is that correct?

21 A There is. Let me make one correction, if I  
22 may. So several months before August 2010, I

Page 41

1 transferred to the technical surveillance office in  
2 the State Department, and I worked for ManTech just  
3 for like two months.

4 Q Another private company?

5 A Yes. So they private -- or they  
6 federalized my position as the supervisor of the  
7 video forensics lab. They offered that position to  
8 me.

9 Q What do you mean by they federalized it?

10 A So the contract position went to a GS-14  
11 special agent position. They offered that position  
12 to me. I turned it down. Went to ManTech for two  
13 months, and then I started with the -- or three  
14 months. And then I went to the FBI.

15 Q Why did you turn that down?

16 A Because they wanted me to go back to basic  
17 federal agency training down in Glynco, Georgia, and  
18 I didn't want to go there, and then go to their basic  
19 training, basic federal agent training. Basically  
20 TDY for a year, and I didn't want to leave my family  
21 for a year.

22 Q Okay. So it looks like in 2008, 2009, and

Page 43

1 Association. So I went to several of their  
2 conferences that have courses there. I went to both  
3 state and the international conference a couple of  
4 times, and that's included in the training.

5 Q Okay. Well, this one specifically, I  
6 guess, is July.

7 A That's probably their international  
8 conference.

9 Q Okay. And what courses did you take?

10 A Technical surveillance countermeasures,  
11 CCTV installations, video enhancement, audio  
12 enhancement. Several courses.

13 Q You took all of those in July of 2009?

14 A Uh-huh. It was a weeklong course that --  
15 or conference. And then you would go to courses  
16 during the day.

17 Q Like little mini --

18 A Yeah.

19 Q -- seminars kind of deal?

20 A Yes.

21 Q Okay. August of 2009, VideoFOCUS Pro  
22 Forensic Software?

Page 42

1 I think even one in 2000 and -- actually a few in  
2 2010, you were taking some courses?

3 A (Witness nods head.)

4 Q Who were you with when you took the  
5 November 2008 course? It was called DC Live/Forensic  
6 Audio Enhancement Training.

7 A I was still with Paradigm Solutions,  
8 superintendent or supervisor at the State Department.

9 Q Let's talk about DC Live? What is DC Live?

10 A It's audio enhancement software.

11 Q They're a private corporation?

12 A Uh-huh.

13 Q Okay. And tell me about that course.

14 A It was a course -- I think it was down in  
15 Houston, Texas. A three-day course. Go down there  
16 and use DC Live to do audio enhancement.

17 Q Use their software?

18 A Uh-huh.

19 Q Okay. And you also took -- in 2009, I  
20 guess you were still with Paradigm. You took  
21 electronic and technical investigative training?

22 A National Technical Investigators

Page 44

1 A Uh-huh.

2 Q Another private company?

3 A Yes. It's out of Boston. VideoFOCUS Pro,  
4 VideoFOCUS Source. Video enhancement software for  
5 law enforcement. I've been to those courses a dozen  
6 times.

7 Q And then you had a slew of them in 2010.  
8 Can you tell me, were those pre or post your leaving  
9 Paradigm?

10 A Probably both. So --

11 Q Well, you started in August so --

12 A August so --

13 Q August, November and December?

14 A Yeah. So I entered my training with the  
15 FBI, and they automatically started sending me out to  
16 different courses all around the United States. So  
17 VideoFOCUS Pro was probably one of them. Signalscape  
18 was another one. A slew of different forensic  
19 platforms.

20 Q Okay. And that would have been when you  
21 moved over to the FBI?

22 A Yes.

Page 45

1 Q Okay. And tell me about that move to the  
2 FBI.

3 A I applied on USA Jobs, and they accepted  
4 me.

5 Q When was that?

6 A August 2010 is when I started.

7 Q Okay. As a special agent?

8 A No, as professional support.

9 Q Have you ever been a special agent?

10 A Yes, with the Air Force Office of Special  
11 Investigations.

12 Q But not with the FBI directly?

13 A No.

14 Q What's the difference between a special  
15 agent and your position?

16 A They carry a gun.

17 Q That's it?

18 A They have --

19 Q Well, I like you if you -- if you make it  
20 that simple.

21 A They're sworn law enforcement officers. I  
22 am professional support. So I do back office

Page 46

1 support, some field support, if I'm called to. They  
2 are active in active investigations. I am there when  
3 called upon by the special agents to support them on  
4 any investigative requirements in my field.

5 Q Tell me, why did you go to the FBI? You  
6 seemed to have dabbled a little bit in the private  
7 sector.

8 A Uh-huh.

9 Q Tell me what caused you to now go back to  
10 the FBI or go back to government?

11 A Security. Job security.

12 Q Job security?

13 A Yes. I have three kids, had a wife, and  
14 contracting services were laying people off,  
15 depending on what contracts were going on. In 2010,  
16 the economy was up and down. From 2008 to 2000 and  
17 -- well, even now. You know, job security.

18 Q Okay. And so it appears then starting in  
19 August of 2010 that the FBI is sending you August,  
20 November, December of 2010, to these particular  
21 courses, and so I kind of want to focus on those  
22 courses, because you had a particular position that

Page 47

1 you were employed with at the FBI. What was the  
2 focus there?

3 A So my job itself is called a photographic  
4 technologist.

5 Q What is a photographic technologist? And  
6 take it in very lay terms here. Okay?

7 A Lay terms, it's a forensic --

8 Q We're lawyers.

9 A -- examiner -- I'm a forensic examiner for  
10 both video and imagery.

11 Q Is there a big difference in those sorts of  
12 forensic work?

13 A There is. So let me just lay a little bit  
14 down here. So in --

15 Q Good.

16 A -- my office we have three different  
17 sections. We have audio. We have video, and we have  
18 imagery.

19 Q Audio, video and imagery?

20 A Uh-huh.

21 Q Okay.

22 A So right now I am certified in both video

Page 48

1 and imagery.

2 Q When you're saying certified -- and we're  
3 going to get to that in just a second, because this  
4 -- it kind of blends a little bit, you know, with  
5 your courses and with your position. Certified by  
6 whom?

7 A FBI. So the FBI has a certification  
8 process internal to become --

9 Q Is it a certification process, or is it a  
10 qualifications process?

11 A I don't really see a difference, per se.

12 Q Have you gotten some certificate that  
13 says --

14 A Uh-huh.

15 Q Okay. Do you know what the difference  
16 between a certification and a qualification is?

17 A So I could be qualified to use, say,  
18 software. I can be certified to -- at least in the  
19 FBI's eyes -- to process this evidence and process  
20 this material for investigative purposes.

21 Q So tell me what -- if you're saying that  
22 you are certified by the FBI, and you're telling me,

Page 49

1 Look, Rick, that's what the FBI calls it,  
2 certification --  
3 MR. MARTIN: Hey, Rick, can you move --  
4 MR. ESCOBAR: Oh, sorry.  
5 BY MR. ESCOBAR:  
6 Q If the FBI calls it -- you're telling me  
7 today that the FBI calls it a certification --  
8 A Uh-huh.  
9 Q -- in video and imaging -- imaging, right?  
10 A Imagery, yeah.  
11 Q Tell me what the process is for each one of  
12 those.  
13 A So for video forensics, which I started off  
14 with, was basically -- it's set up with a training  
15 program -- a two-year training program in which we go  
16 through a multitude of processes for training that  
17 would be external of the FBI. It would be the  
18 different training courses that I've been to. Adobe  
19 Premiere, Adobe Photoshop, VideoFOCUS Pro,  
20 Signalscape --  
21 Q Let's stop there for a second. Because I'm  
22 looking at your courses that you've taken here and I

Page 50

1 want to make sure that we check them off --  
2 A Okay.  
3 Q -- of your CV here. And so August of 2010,  
4 you've got your first one that you've listed as your  
5 DEL Quality Assurance Training. Does it have  
6 anything to do with your certification of --  
7 A That is --  
8 Q -- video forensic?  
9 A That is the first thing that we do to -- as  
10 we walk in the door to make sure that our DEL  
11 certification, Digital Evidence Laboratory -- we  
12 understand the SOPs, the procedures, the evidence,  
13 the whole process for processing evidence and  
14 ensuring that we stay within the standard operating  
15 procedures of the FBI.  
16 Q Okay. So we're going to get back to those  
17 SOPs, because I would imagine you have those,  
18 correct?  
19 A Not with me.  
20 Q Do you know where they are?  
21 A Yeah, back at my office.  
22 Q You have to read them one by one is what

Page 51

1 you're telling me? You haven't memorized those?  
2 A I know the general overlay of each one, and  
3 they're very general SOPs that we use.  
4 Q Okay. Well, then we'll see what you  
5 remember --  
6 A Yeah.  
7 Q -- in that. But you're saying this course  
8 is the first one that was necessary for your  
9 certification?  
10 A Yes. As I walked through the door, that is  
11 the first thing that they had me do.  
12 Q The next one is your Star Witness Video  
13 Forensic Software course. Was that necessary for  
14 your certification?  
15 A It was one of the courses that happened to  
16 be processed or allowed to go to at that time. So as  
17 the courses came up, I went to it.  
18 Q But that wasn't one that was necessary for  
19 your certification is what you're telling me?  
20 A Depends on the platform that we utilized.  
21 I used that platform on several of my investigations.  
22 So, yes, I did use that for my certification.

Page 52

1 Q Okay. So just looking at your CV here, are  
2 you saying then all of the ones that you took in  
3 December and November and August of 2010 were courses  
4 that the FBI sent you to specifically --  
5 A Uh-huh.  
6 Q -- in order to be able to be certified in  
7 video forensics?  
8 A Video and imagery. So my track was in line  
9 with both of them at the same time.  
10 Q So you were going to get certified on both?  
11 A On both regardless, yes.  
12 Q Okay. Any other ones other than the ones  
13 in 2010 for that certification?  
14 A So if you look up to -- and it goes beyond  
15 just physical courses. So we go through different  
16 tours. So if you look over here on the  
17 certifications and professional affiliations, during  
18 that timeframe I went to -- back again -- the  
19 National Technical Investigators Association. So I'm  
20 a certified technical investigator in there.  
21 Q Okay.  
22 A American Apparel, Garland Street Company --

Page 53

1 or Shirt Company, National Media & Exploitation  
2 Center. All of these areas is part and parcel of  
3 what we do.

4 Q Right, I realize that. But you're not  
5 listing those -- all of them as happening between  
6 2010 and when you received your certificate. I'm  
7 trying to narrow this field down.

8 The only ones that I see here that are from  
9 possibly 2010 during the certification process would  
10 have been the one that -- the certified technical  
11 investigator and the national technical investigator,  
12 which appear to have started in 2009 to present.

13 A Uh-huh.

14 Q So I'm trying to get now your courses that  
15 served as the basis for your certification.

16 A Okay.

17 Q For the FBI.

18 A For the FBI. Okay. So these are just some  
19 of the external courses. Internal of the FBI, I'm  
20 also --

21 Q So let's get back to that question. I want  
22 to make sure that we've identified the actual

Page 55

1 Q Okay. What were those?

2 A So different equipment that we use. So  
3 different players, DVRs, VHS players, professional  
4 players, decks, that sort of thing. I have to get  
5 familiar with all of those. The different forensic  
6 platforms that we use, get familiar with all of  
7 those. DVR players, get familiar with all of those.  
8 I took several in-house research and paper courses.

9 So basically my trainer said go out and research this  
10 topic and that topic and this topic and give us a  
11 briefing, give us a paper, read these articles --

12 Q Did you publish?

13 A I did not publish. This is all internal.

14 Q Have you ever published?

15 A No, no. My main source of any type of  
16 investigative work that I do is all investigations.  
17 So we have sections of people that actually do  
18 research and development within my office. My main  
19 focus is investigations.

20 Q So your certification then in 2012 was in  
21 video forensics?

22 A Uh-huh.

Page 54

1 courses.

2 A Okay.

3 Q The actual courses that we've talked about  
4 are the ones that we've indicated happened in August  
5 of 2010, November of 2010, and the ones that happened  
6 in December of 2010. Plus, you're telling me, Look,  
7 Rick, the certified technical investigator and the  
8 national technical investigator were programs that I  
9 also attended or, you know, affiliations and  
10 conferences that you also attended in that process,  
11 but nothing else?

12 A So I got certified in February of 2012.

13 Q Right.

14 A So any of those courses from 2010 to  
15 2012 --

16 Q Perfect.

17 A -- will be in line with that certification  
18 process.

19 Q Okay. So you said, now, that there was  
20 some internal training that you had with the FBI that  
21 also allowed you to be certified?

22 A Uh-huh.

Page 56

1 Q And imagery?

2 A I got -- it was. I think two months later  
3 I finally got my certification for imagery. So  
4 imagery --

5 Q So video forensics came first?

6 A Yes.

7 Q Now, you were certified in what capacity?  
8 Because I know there's different positions within  
9 your department; is that correct?

10 A Uh-huh.

11 Q What are the positions within your  
12 department? I guess we probably should have started  
13 there.

14 A Now, when you're talking -- I don't  
15 understand the question.

16 Q Well, are you an analyst? Are you a -- you  
17 know, a technician? Are you what?

18 A Forensic examiner, photographic  
19 technologist. We have video technicians.

20 Q So you have video technicians?

21 A Yeah, we have video technicians.

22 Q Okay.

Page 57

1 A I'm a photographic technologist.  
2 Q And what does that mean?  
3 A So that is the science side of our forensic  
4 program there.  
5 Q Okay. So you're --  
6 A The video technicians, they don't have to  
7 have a degree, a Bachelor's degree. On the PT side,  
8 so the photographic technologist, some of the  
9 requirements -- or one of the requirements is to have  
10 a science degree, which I do.  
11 Q And where is your science degree?  
12 A That would be the Bachelor's degree of  
13 Science.  
14 Q And that --  
15 A Criminal justice investigations is a BS.  
16 Bachelor's of Science.  
17 Q So that's what you're using as your  
18 science?  
19 A Yes. And then the two Associate's degrees  
20 are Associate's of Science as well.  
21 Q So you don't have any degrees in hard  
22 science?

Page 58

1 A Investigations, so it's a science degree.  
2 Q Okay. So there's a video technician?  
3 A Uh-huh.  
4 Q There is a technologist, as yourself?  
5 A Yes, sir.  
6 Q Is there any other levels?  
7 A There are engineers within the office.  
8 Engineers.  
9 Q Engineers?  
10 A Uh-huh.  
11 Q And is that a title?  
12 A Yes. If you have an engineering degree,  
13 you have an engineering title on your degree program.  
14 Q Any other titles?  
15 A There's section supervisors. There's  
16 supervisors, photographic technologist supervisors,  
17 senior science photographic technologists, and then  
18 the unit chief.  
19 Q So there really is no analyst position?  
20 A Technically, no. I mean, it's forensic  
21 examiner, which would be a photographic technologist.  
22 Layperson -- or layperson technology -- or verbiage

Page 59

1 would be examiner, forensic examiner.  
2 Q Okay. So you get your certification, what  
3 are you doing now with the FBI both before and after  
4 your certification? Any difference?  
5 A No, actually, I -- out the door, even  
6 before I was certified, I was running investigations.  
7 I ran two federal forensic programs prior to. I knew  
8 some of the people in the office prior to me going  
9 there. I worked investigations start to finish from  
10 day one.  
11 Q What type of investigations?  
12 A Criminal investigations,  
13 counterintelligence, counter-surveillance, spies,  
14 pedophilia, robbery, bank robbery.  
15 Q Was all of your work --  
16 A Terrorism.  
17 Q Was all of your work geared towards video  
18 and imagery?  
19 A Yes.  
20 Q All of it?  
21 A In the investigative portion?  
22 Q Uh-huh.

Page 60

1 A So the support that I did?  
2 Q Uh-huh.  
3 A Yeah, I believe so.  
4 Q Okay.  
5 A Every case that I'm assigned has --  
6 Q That component to it?  
7 A Yes. So that's the office that we're into.  
8 Q How many of you were there in 2012, doing  
9 the same thing?  
10 A Oh, geez. I know there's 19 examiners  
11 right now. There was probably -- I'm thinking maybe  
12 25 to 30 back then.  
13 Q Okay.  
14 A We've had several retirements since then.  
15 Q Okay. It looks like in that 2012 period,  
16 you -- it looks like actually maybe before 2009, you  
17 became an instructor. How did you become an  
18 instructor?  
19 A I have instructed on several things. So  
20 with the State Department, I instructed video  
21 forensics and image enhancement for -- I was at the  
22 Antiterrorism Assistance Program. So I go overseas,



1 I set up a mobile laboratory. I set up a curriculum  
2 and taught a one-week course overseas to police  
3 officers overseas to help in antiterrorism,  
4 specifically for video forensics and image  
5 enhancement.

6 Q And then that continued when you -- it  
7 looks like when you got in your job here with the FBI  
8 and after. It looks like it was after your  
9 certification?

10 A Yes. So I've taught --

11 Q Or pretty close to it, right?

12 A I've taught several times. National  
13 Technical Investigators Association, I taught a  
14 couple hour course there on several occasions for  
15 facial recognition and comparison course and  
16 enhancement. I've also taught reverse projection at  
17 the LEVA course or conference that they held in  
18 California. And then daily now I train investigators  
19 and examiners within the office.

20 Do you mind if I grab a water?

21 Q Oh, anytime. Anytime you need a break or  
22 anybody needs a break, just let me know.

1 A I don't normally talk this much.

2 Q You don't?

3 A No. I'm usually locked away in a little  
4 laboratory.

5 Q Okay. So we're getting there. It looks  
6 like -- in looking at your professional training, it  
7 looks like you only have really -- post your  
8 certification -- a couple of them. One in 2013, and  
9 the other one in 2015. And I want to make sure that  
10 that is correct, at least on your CV.

11 A For certifications?

12 Q For any professional training. You've got  
13 here professional training, so I'm just wondering --  
14 it looks like you took a -- you know, a -- some in  
15 2012. That was, you know, when you got your  
16 certification. Maybe a little bit after. And then  
17 you have one in 2013 and one in 2015.

18 A 2015? I have taken a couple of courses  
19 since then.

20 Q That's what I wanted to find out.

21 A And I brought this over here. I just got  
22 back from the Netherlands. Did I put it in here? So

1 I went to the Netherlands, and I -- looking at  
2 purchasing and training in what they call IMPRESS  
3 software and Amped FIVE software.

4 Q So this is an updated CV?

5 A Yeah.

6 Q Has it been updated in any other areas  
7 that --

8 A Just those two, and I need to fix that 2010  
9 as well.

10 Q So it looks like in addition to what was  
11 given to me, you have two courses that you took. One  
12 with Amped FIVE; is that correct?

13 A Amped FIVE, yes.

14 Q And the other one with IMPRESS?

15 A Uh-huh.

16 Q The Amped FIVE was September of 2016? And  
17 what is that?

18 A It's another video forensic platform.

19 Q Another software?

20 A Another software, yeah.

21 Q Are these courses that, you know, you're  
22 taking dealing with another software, is that

1 software manufacturer wanting you to buy that  
2 software so that you can use that software in your --

3 A In most cases. So a lot of these things --  
4 video forensics is nothing more than using different  
5 filters. These platforms use different filters  
6 different ways. They're all computer algorithms.  
7 Most of these companies have different engineers that  
8 redo some of these algorithms to try and make it  
9 better. Within the FBI we try and take a lot of the  
10 higher end forensic programs, bring them in and do  
11 testing. So if I have different types of software  
12 and a different case comes in, I can test that case  
13 against multiple different types of software, so I  
14 can ensure that I'm getting the best product out.

15 Q Got it.

16 A So, yes, as I go through -- I'm one of the  
17 main trainers in the FBI -- at least in my office --  
18 for looking at these platforms. I've been doing it  
19 for a very long time. See what works best and what  
20 products we can use and teach other examiners within  
21 the office as they come through the training program.

22 Q Okay. So 2012 you become certified in



Page 65

1 those two particular areas. Take me through your  
2 career from that point on.

3 A Sitting in my laboratory and doing a lot of  
4 casework. So within the video forensics program, our  
5 video forensic casework, a lot of it is just critical  
6 viewing. So being able to look at media that is  
7 recorded during the course of a crime and getting  
8 that media to a way in which critical viewing for  
9 investigators, for prosecution, for defense, for  
10 lawyers, for judges, can view this thing -- view that  
11 media in a way that allows them to figure out what's  
12 going on.

13 Q For them to figure out?

14 A Pretty much, yes.

15 Q Do you figure that out?

16 A For video, a lot of times, no. So in the  
17 video side, a lot of times we don't have an opinion  
18 to that -- to that basis. What you can see is what  
19 you see.

20 Q And that's part of your standard operating  
21 procedures?

22 A Yes, sir.

Page 66

1 Q And that's adhered to pretty strictly, is  
2 it not?

3 A It is.

4 Q And why?

5 A A lot of times we don't want to bias the  
6 jury, bias those individuals on what they see.

7 Q Well, do you think you have better  
8 capabilities than anybody else in viewing a video and  
9 determining?

10 A Some people have that view, some people  
11 don't. I have to adhere to what the FBI puts upon  
12 me.

13 Q Okay. And the FBI puts that upon you,  
14 because the FBI opines that your viewing of the video  
15 is no different than anybody else's viewing of a  
16 video?

17 A To a point. So we try not --

18 Q To what point?

19 A We try not to influence what can be seen.  
20 So if -- point in take, if you see a license plate  
21 and you could easily see the license plate, I don't  
22 actually write that into a report. What you see is

Page 67

1 what you see. On the video side.

2 Q On the video side?

3 A On the video side. The imagery is  
4 completely different. That's where we come into the  
5 science portion of it, and that's where I can place  
6 an opinion on that type of video or imagery that I am  
7 processing.

8 Q Okay. So let's start the difference  
9 between video and imagery.

10 A Uh-huh.

11 Q What is the difference?

12 A So video is strictly usually -- well,  
13 several points to video. For enhancement, it's  
14 critical viewing, like I said. A lot of it is taking  
15 it out of a proprietary format, putting it into an  
16 open format, and doing minor enhancements to allow  
17 individuals to see that critical viewing, as I stated  
18 earlier.

19 Demultiplexing. So you have a multiple  
20 camera output. Sending those cameras out into an  
21 individual camera view to where you can view it.  
22 Making video timelines. So you have 16, 36, 180

Page 68

1 cameras of a crime to easily be able to view that  
2 crime, put in a discernable order to where an  
3 individual can sit there, and, again, through  
4 critical viewing, make some sense of what's going on  
5 through those multiple camera views.

6 We do conversions. So if we get an  
7 overseas tape, so it's in PAL format, we convert it  
8 into an NTSC format, so we can view it in the United  
9 States. And vice versa. So if I'm working on a  
10 British type of video enhancement, I would put it in  
11 a PAL format and send it back over to England or  
12 wherever it would be at.

13 On the imagery side, we have several  
14 different investigations or --

15 Q Well, let's not jump there just yet.

16 A Okay.

17 Q Video. What is an actual video made up of?  
18 Numerous files?

19 A It all depends. All depends on the actual  
20 video that's submitted to me. So video in and of  
21 itself is still images placed in line to invoke  
22 motion.

Page 69

1 Q So then what's the difference between a  
2 video and an image?

3 A Video is multitude, and a single -- or an  
4 image is singular.

5 Q So then what's the difference between video  
6 and imagery?

7 A On the imagery side we use -- or we do  
8 several different types of investigations within  
9 there for examinations. One would be reverse  
10 projection photogrammetry, where you can actually  
11 make measurements within a photograph.

12 Q Okay. Hold on a second, because we're  
13 going to get to those in just a second.

14 A Okay.

15 Q But before we get to all of those, I want  
16 to see if I'm clear on this. If a video is a bunch  
17 of images put together, aren't those images the same  
18 as an image that you would get outside of a video?

19 A It is, yes.

20 Q Okay. So why does the FBI say, look, you  
21 know, you can't give -- our standard operating  
22 procedures is you can't give opinions?

Page 70

1 A Uh-huh.

2 Q But with imagery --

3 A Not saying you can't. I'm just saying that  
4 they -- it depends on the investigation and the  
5 request itself.

6 Q Request from who?

7 A From the field. The investigative agent  
8 that puts in the request for that enhancement.

9 Q So you're telling me that your standard  
10 operating procedures is that the FBI allow you to  
11 give an opinion concerning the images within a  
12 video --

13 A Yes.

14 Q -- as long as the individual is asking for  
15 that opinion?

16 A They are, as well as the individual who is  
17 processing that evidence is authorized to do so;  
18 i.e., a photographic technologist. So that is the  
19 split between the video section and the PT section is  
20 I am authorized and trained to give an opinion on  
21 certain aspects within these videos and images during  
22 that examination. So a PT -- or a video technician

Page 71

1 would not be asked and cannot give an opinion-based  
2 testimony on that examination.

3 Q But you can?

4 A I can.

5 Q And why is that?

6 A Because I am trained and certified to give  
7 opinion-based testimony on the examinations that I  
8 do.

9 Q What gives you that ability that a video  
10 technician can't?

11 A They go through a different training plan  
12 than I do.

13 Q What training have you had to give you that  
14 special ability?

15 A That would be on the PT side that we  
16 haven't discussed yet.

17 Q And PT meaning?

18 A Photographic technologist. It's easier to  
19 say.

20 Q Okay. So let's talk about the image or  
21 imagery.

22 A Uh-huh.

Page 72

1 Q What's your program?

2 A So several different examinations that we  
3 can do. And I'm going to write it down so I can keep  
4 this straight.

5 Q Okay.

6 A One of the most basic ones is photographic  
7 -- or reverse projection photogrammetry, where you  
8 can make measurements --

9 Q Reverse?

10 A Reverse projection photogrammetry.

11 Q Okay.

12 A In which you can make measurements within a  
13 photograph. A lot of it's used for crime scene  
14 reconstruction. That's some of the basis for it, is  
15 crime scene reconstruction.

16 We primarily use it for heights. Height  
17 determinations of individuals captured within video  
18 or images.

19 Q Why can't you do it for more than height?

20 A I'm not saying you don't. I'm just saying  
21 that that is what our primary use is.

22 Q So what other things other than heights do

Page 73

1 you normally do?

2 A You can do placement. I've been requested  
3 to do a placement down South on a video. So you can  
4 put in place individuals and where they are located  
5 within that scene. We have done in the past -- if  
6 there is a weapon that is involved --

7 Q Okay.

8 A -- and that weapon's been modified, we can  
9 put that weapon back in place, and see if that  
10 weapon's -- an example would be a shotgun. If you  
11 saw the end of a shotgun off and we know the make and  
12 model of that shotgun, the standard length of that  
13 shotgun, and we can put those measurements and put  
14 that shotgun back in place and see -- tell that that  
15 shotgun's been modified.

16 Q Okay. What else?

17 A They've also done speed analysis. Putting  
18 vehicles, putting people back in a place at certain  
19 times. If you have a regular rate of which that  
20 video has been recorded and that individual or object  
21 is in movement from one place to another, you can  
22 discern speed, depending on how fast or far they've

Page 74

1 traveled between two different places over a certain  
2 period of time.

3 Q What else?

4 A I think that's about it.

5 Q Okay. So we've gone through that one  
6 aspect.

7 A Uh-huh.

8 Q I'll circle that. What else?

9 A So comparison analysis. So we do  
10 comparisons on objects, both known and questioned --  
11 or known to questioned. And --

12 Q Known to question?

13 A Yes.

14 Q Okay.

15 A That can be anything from faces to clothing  
16 to vehicles to -- we've done moon rocks, carpets.  
17 I've -- just basically anything physical that we  
18 have. If we have enough detail in that imagery, we  
19 can discern whether it is or is not or appears to be  
20 or has some capabilities of being; i.e.,  
21 characteristics that are similar or dissimilar  
22 between two objects.

Page 75

1 Q Okay. Anything else?

2 A No. I mean, comparison is just one to  
3 another.

4 Q So those two?

5 A Oh, no. No, that's just --

6 Q Oh, okay.

7 A We're going to keep going. We're going to  
8 keep going. So we've got projection, comparison. So  
9 I do make/models.

10 Q What's that?

11 A Make/models is --

12 Q Meg?

13 A Make.

14 Q Make?

15 A Make/model. So it is trying to discern  
16 what a vehicle's make, model and year is. The  
17 question vehicle that is caught on the video. So if  
18 we have enough detail of the vehicle, enough  
19 characteristics that we can discern what that vehicle  
20 is, usually it entails going through a database that  
21 we have called DAIS and -- trying to find out what  
22 that vehicle is, just through class characteristics

Page 76

1 of the vehicle.

2 Q Okay, that's number three.

3 A Make/model.

4 Q Four?

5 A Authenticity.

6 Q Authenticity.

7 A So depending on what the media is --

8 Q Are you certified?

9 A That's part of the imagery certification.

10 Q So you are certified?

11 A Yes, sir.

12 Q Okay.

13 A So with the authenticity we're looking to  
14 see if anything has been modified, manipulated, see  
15 if it is a true and accurate representation of the  
16 recording, see if there's any alterations, compared  
17 if imagery has been recorded from a certain camera,  
18 being able to discern digital images and where those  
19 cameras came from and what it was recorded from. A  
20 lot of that has to do with terrorism, child  
21 pornography, that sort of thing.

22 Q Okay. And so how do you authenticate a

Page 77

1 video? Is there an SOP that you all --  
2 A There is. There is an SOP.  
3 Q -- have for doing that?  
4 A Yeah.  
5 Q And is there a best practices or some  
6 treatise out there or some peer-reviewed article that  
7 you all follow?  
8 A There is a lot of authenticity articles  
9 that are written out there. The authenticity portion  
10 of this is tricky, because there are so many  
11 different types of video and imagery. A lot of it  
12 has to do with a -- looking at the metadata, looking  
13 at the action, looking at the chain of custody,  
14 looking at what's going on within the imagery,  
15 looking at the possibility and capabilities of that  
16 video being altered, seeing what that alteration  
17 (sic) would entice, seeing if the media itself is in  
18 the proprietary format versus an open format, seeing  
19 who had access to it. There's a myramid -- myra --  
20 myramid (sic)? There's a lot of different  
21 capabilities and angles to look at that.  
22 Q Are you familiar with the name Bruce

Page 78

1 Koenig?  
2 A I am.  
3 Q You are?  
4 A Uh-huh.  
5 Q How?  
6 A Just through conversations through the FBI.  
7 Q And what were those conversations?  
8 A If I recall, he was either -- I don't know  
9 the specifics. I just know I've heard of the name  
10 before.  
11 Q Do you know any of his work?  
12 A I'd have to go back and look. I've read a  
13 lot of things over my time.  
14 Q Have you ever read any peer-reviewed  
15 articles or treatises or books that he has authored?  
16 A Possibly. I don't recall off the top of my  
17 head.  
18 Q Have you read any one of his articles or  
19 treatises or books that deals specifically with  
20 authenticity?  
21 A Possibly. Again, I'd have to go back and  
22 look at the triage of materials that I've read over

Page 79

1 the last couple of years or the last six years.  
2 Q Do you know if he is the only article  
3 that's been peer-reviewed that deals with the topic  
4 of authenticity?  
5 A I don't know off the top of my head, but I  
6 would be very doubtful of that since I have read  
7 several articles on authenticity.  
8 Q Peer-reviewed?  
9 A Uh-huh. Most of the articles that are  
10 published have been peer-reviewed at some point or  
11 another. And I know the forensics is -- you know,  
12 forensics simply is a very vast knowledge-based --  
13 Q Well, I would imagine if you read the  
14 article that he published you would certainly  
15 remember that, right?  
16 A Not necessarily.  
17 Q Do you know what his representation in your  
18 profession is? Mr. Koenig's?  
19 A Not off the top of my head.  
20 Q So authenticity is one of the things that  
21 you want to do, right?  
22 A Uh-huh.

Page 80

1 Q Both with video and imagery?  
2 A Uh-huh.  
3 Q Okay. Next, five?  
4 A Authenticity, make/model, comparison,  
5 reverse projection. And just go back to basic image  
6 enhancement is what we do.  
7 Q So number five, image?  
8 A Image enhancement.  
9 Q Enhancement. And we're going to get into  
10 that, obviously, much more, but why don't you give me  
11 kind of a layman's process of how that works.  
12 A Image enhancement?  
13 Q Yeah. Both in video and single image.  
14 A So enhancement in and of itself is the  
15 capability of deriving detail from video or imagery,  
16 more than what originally is visible. So that would  
17 be sharpening, lightening, darkening, highlighting,  
18 and critical viewing, as I said before.  
19 Q So how does that start? Did you have a --  
20 you have an image, correct?  
21 A Uh-huh.  
22 Q And that image is made up of what, pixels?

Page 81	Page 83
<p>1 A Pixels.</p> <p>2 Q Okay. So how does -- explain to me that</p> <p>3 process. How does an image -- how is it made up of</p> <p>4 pixels?</p> <p>5 A So a camera in and of itself has a light</p> <p>6 source. That light source is converted to a voltage.</p> <p>7 The voltage is converted to a numerical value, which</p> <p>8 is discerned into a pixel value, utilized into</p> <p>9 digital functions. It used to be light onto an</p> <p>10 analog tape. Now it's converted into a digital</p> <p>11 function, into a hard drive, a disk, DVD, thumb</p> <p>12 drive, and that sort of thing.</p> <p>13 Computers can encode and decode these</p> <p>14 pixels, which would be values of light back to a</p> <p>15 voltage and --</p> <p>16 Q How do they do that? How does a computer</p> <p>17 decode and -- and you said encode?</p> <p>18 A Encode and decode, yes.</p> <p>19 Q How do they encode and decode?</p> <p>20 A Through computer algorithms.</p> <p>21 Q Do you know how that computer algorithm</p> <p>22 works?</p>	<p>1 A Yes. And I have tested it myself as well.</p> <p>2 Q But you don't know how it works?</p> <p>3 A The software itself, a lot of it is</p> <p>4 in-house.</p> <p>5 Q Meaning proprietary?</p> <p>6 A Yes.</p> <p>7 Q They don't want to let you know how it</p> <p>8 works?</p> <p>9 A Correct. The algorithms themselves are</p> <p>10 proprietary. I have no access. You have no access.</p> <p>11 We have no access to that.</p> <p>12 Q Okay. Well, let's get back to the pixels,</p> <p>13 because that's kind of an interesting process for me.</p> <p>14 A Uh-huh.</p> <p>15 Q You have an image?</p> <p>16 A Uh-huh.</p> <p>17 Q It's made up of pixels?</p> <p>18 A It is.</p> <p>19 Q XY coordinate?</p> <p>20 A Uh-huh.</p> <p>21 Q And how does that work? The XY coordinate?</p> <p>22 A The placement of that pixel in the position</p>
Page 82	Page 84
<p>1 A Unh-unh, I'm not an engineer.</p> <p>2 Q So how do you know it's being done right?</p> <p>3 A Just through the processes of -- just</p> <p>4 through trial and error basically. I mean, I've been</p> <p>5 doing this for a long time. It is -- the processes</p> <p>6 that we use through testing the software, through</p> <p>7 testing different photography methods, through</p> <p>8 different cameras.</p> <p>9 Q But how do you know that the algorithm is</p> <p>10 being done correctly?</p> <p>11 A Through the testing processes of those</p> <p>12 engineers.</p> <p>13 Q Well, have you been there through the</p> <p>14 testing process of those engineers?</p> <p>15 A We have -- taking the -- I guess I should</p> <p>16 pin down what algorithm you're talking about.</p> <p>17 Q Any of it.</p> <p>18 A We have all of our software certified, both</p> <p>19 before and during --</p> <p>20 Q Certified. So what you're saying is you're</p> <p>21 relying on somebody else's certification of that</p> <p>22 software?</p>	<p>1 could be designated on an XY axis.</p> <p>2 Q Okay. And so can you count the pixels that</p> <p>3 make up the image?</p> <p>4 A You can.</p> <p>5 Q And so what's that called?</p> <p>6 A Pixel count or resolution.</p> <p>7 Q Okay. Which one do you want to call it?</p> <p>8 A I use resolution.</p> <p>9 Q And I like pixel count.</p> <p>10 A Okay.</p> <p>11 Q The layman's term.</p> <p>12 A How many pixels are in the image, that's --</p> <p>13 Q How many?</p> <p>14 A Yep.</p> <p>15 Q Okay. And so do you do that?</p> <p>16 A Do I count the pixels?</p> <p>17 Q Yeah.</p> <p>18 A Not one by one, no.</p> <p>19 Q And why not?</p> <p>20 A Why not?</p> <p>21 Q Yeah.</p> <p>22 A That would have taken me a long time to go</p>

Page 85

1 down and count them. I usually use the computer  
2 algorithms that I have. That gives me the resolution  
3 of that imagery.

4 Q Well, I guess it depends upon what you're  
5 focusing on, right? There may be a lot of pixels.  
6 There may not be a lot of pixels, right?

7 A Yeah, it's usually how the count goes.

8 Q So do you just rely on the computer to  
9 count the pixels for you?

10 A I would not go in and count the pixels  
11 myself.

12 Q On any occasion?

13 A I use different programs to count those  
14 pixels, yes.

15 Q So in all occasions you don't even attempt  
16 to count them yourself for any verifications, you  
17 just let the computer do it?

18 A So on certain aspects on different imagery,  
19 I have gone in and counted how wide a license plate  
20 is, how wide a face is, that sort of thing when doing  
21 comparison analysis. But as a whole, I do not go  
22 into imagery and do a one-for-one count on every

Page 86

1 pixel. No, I do not.

2 Q Well, I'm not saying every pixel. Just,  
3 you know, areas of interest. Not every image has the  
4 entire image as an area of interest, correct?

5 A Correct.

6 Q You know, there's an image that may have 3  
7 percent, which is an area of interest.

8 A It depends on the photography and the  
9 imagery, yes.

10 Q And that makes it a lot easier to count the  
11 pixels?

12 A If someone needs to count the pixels, yes.

13 Q Okay. Now, what color are the pixels?

14 A I usually don't get into color, because  
15 color itself is a recording and any of the CCTV  
16 systems could be different.

17 Q Okay. So explain that to me, because  
18 that's -- you don't get into color? You don't --

19 A A lot of times, no.

20 Q Well, do you ever get into color?

21 A I can get into color when I'm tracking  
22 vehicles and when I'm tracking clothing, that sort of

Page 87

1 thing, but as a whole, I don't discern this is blue,  
2 this is green, this is red. Just because the CCTV  
3 systems are usually inaccurate. And then visual  
4 aspect of color is different for every person.

5 Q Okay. So you've got an image.

6 A Uh-huh.

7 Q And there is a focus of an object within  
8 that image.

9 A Uh-huh.

10 Q And you want to enhance it.

11 A Uh-huh.

12 Q And it's a small object.

13 A Okay.

14 Q So tell me the process that you would go  
15 through.

16 A I would do a media analysis. I would --

17 Q Oh, wait, whenever you're going to tell me  
18 these words, I want to know what you mean by it. So  
19 the first thing that you're going to do is called a  
20 media?

21 A No, the first thing I am going to do is  
22 usually a hash count of the media that I receive.

Page 88

1 Q Hash count?

2 A Hash count.

3 Q Okay. So what is a hash first, and what is  
4 a count second?

5 A So a hash would be an algorithm run across  
6 the media that I receive to give me an algorithm or a  
7 number value that would give essentially a  
8 fingerprint to that media.

9 Q Okay. And so you're going to run that  
10 algorithm on the image?

11 A On the media as a whole, yes.

12 Q The media as a whole?

13 A Uh-huh.

14 Q Okay. And you've already said that the  
15 media consisted of many images?

16 A Could be.

17 Q Or it could be one?

18 A It depends on what comes in.

19 Q Or it could be one?

20 A My standard procedure is I come in, and I  
21 do a hash value of whatever media I'm in. I record  
22 that.

1 Q So you said hash value versus hash count.

2 Is that the same thing?

3 A Same thing.

4 Q So you --

5 A So I do -- it's called a quick hash.

6 Q Quick hash?

7 A I do a hash value, count, whatever you want  
8 to call it on the original. It copies over to my  
9 forensic system. It does another hash and makes sure  
10 that those two are identical.

11 Q Number one, so algorithm for hash count?

12 A Uh-huh.

13 Q Number two?

14 A I run a media analysis that gives me the  
15 underlying facts of whatever I'm processing.

16 Q What is a media analysis?

17 A Media analysis is a media info program that  
18 gives me just the basic overview of what's on -- or  
19 whatever I receive.

20 Q You're going to have to get way -- way more  
21 basic than that.

22 A It gives me --

1 imagery. It could be --

2 Q What do you mean by the type of imagery?

3 A JPEG, TIFF, PNG, that sort of thing. If  
4 it's a video, it could be AVI, MOV, MP4; speed of the  
5 video, if it's available; location of the video that  
6 was recorded, if it's available. The camera type,  
7 the DVR type, the software type. Any information in  
8 the metadata that is listed there so I can review it.

9 Q Okay. Same thing with the algorithm,  
10 what's really your purpose in that?

11 A The purpose is -- right now it's standard  
12 operating procedure dealing with digital evidence. A  
13 lot of our digital evidence -- or some of our digital  
14 evidence will come in through a network, a closed  
15 network that we have. So we ensure the integrity of  
16 that software or that media using hash values so we  
17 can track it through our system.

18 Q Number three?

19 A I review -- physically or visually review  
20 any type of media that I have that coincide with the  
21 request.

22 Q Review it with a naked eye?

1 Q Let's assume you have an image.

2 A It will give me what type of image it is.

3 Q Meaning? What do you mean by type?

4 A JPEG, TIFF, PNG. It will define what the  
5 title of that image is. It will give me resolution.

6 Q Okay, resolution.

7 A It will give me bit count. It will give me  
8 just the status quo of the properties of that image.

9 Q What do you mean by "status quo"?

10 A So anything -- any metadata that is within  
11 that image, it lists for me.

12 Q And that's called media analysis?

13 A That's what I said, yes.

14 Q Okay. And so why do you do that?

15 A I do that just as my standard operating  
16 line of procedures that I do.

17 Q Well, I know, but what information is it  
18 giving you of value in the process of your forensics?

19 A So it always allows me to go back and gives  
20 me the properties of that media that I'm analyzing.

21 Q You're interested in resolution?

22 A Resolution. It could be the type of

1 A Uh-huh.

2 Q Okay. Any other review of it, other than  
3 the naked eye?

4 A Again, it really depends on the type of  
5 examination that I receive.

6 Q What else would you review it with?

7 A Several different processes. So if I'm  
8 looking for a metadata analysis, I could take it  
9 through several different programs to see if there's  
10 anymore EXIF data, metadata, that sort of information  
11 that was in there.

12 Again, it really depends on what type of  
13 examination that I received and which direction I use  
14 my analysis and what processes that I use.

15 Q Okay. So it's called a review?

16 A Uh-huh.

17 Q When you're reviewing with your naked eye,  
18 what are you looking for?

19 A Content, see if the request is possible,  
20 see where the action is, where the area of interest  
21 is within the video. I could receive months worth of  
22 video and thereafter two seconds worth of video. So



Page 93

1 I try and locate the video, see if the video or  
2 imagery is even there. We've received videos and  
3 disks that are completely blank. Just an overall  
4 review of what I received, see if it's keepable or  
5 possible. And then usually write down what is  
6 visible or what is in the content of the media.

7 Q Four?

8 A For my own review so I can always go back  
9 to it.

10 Q No, no, no, that was three.

11 A Oh, okay.

12 Q Review was three. I'm counting.

13 A Okay.

14 Q What's after review?

15 A Review? So I usually start my image  
16 capture or process. Whether it's video, whether it's  
17 imagery, be able to get it out of the proprietary  
18 format or open format into an uncompressed format to  
19 where I can start doing a basic enhancement.

20 Q Okay. So let's talk about image capture,  
21 because that's a little important to me. So image  
22 capture, so you've got, you know, the raw data that's

Page 95

1 best evidence possible, and usually that goes back to  
2 the original format that it was recorded in and  
3 whatever original software that is utilized to record  
4 it with. That is the best evidence possible that you  
5 can get to. Once you take it out of that format and  
6 you start bringing it down the line, there's a chance  
7 that some of the detail is missing.

8 Q Is that because you're compressing it?

9 A No. It's just you're taking it out of it's  
10 normal function. If you do compress it -- and, of  
11 course, you are going to lose some information, but I  
12 try and work in an uncompressed environment.

13 Q And so how do you work in an uncompressed  
14 environment? You have to work with the original?

15 A I do have to work with the original.

16 Q And what do you do with the original that  
17 doesn't compromise it in any fashion?

18 A So any type of recording processes or any  
19 processing --

20 MR. MARTIN: Can I -- when you say  
21 "original," are you talking about the original  
22 proprietary format?

Page 94

1 been given to you, right?

2 A Uh-huh.

3 Q And now you want to do -- you want to  
4 capture the image by copying it?

5 A It depends on what type of process or what  
6 type of video that I'm receiving. So if it's a  
7 proprietary format, if it's an open format, I try to  
8 go back and work on the proprietary format as a  
9 whole. So for DVRs themselves, most of your DVRs are  
10 written by engineers that want to use this media in  
11 their format. So whatever program, whatever control  
12 capability that they use, the proprietary software,  
13 that's what that video is set up for.

14 So when you start taking it out of that and  
15 processing it somewhere else, you have to be very  
16 direct on cues as far as missing things. So I tend  
17 to go back to the proprietary software.

18 Q Okay. So let's try and see if we can  
19 understand this. So you're telling me, Hey, look,  
20 Rick, in this image capture, when at all possible,  
21 you want to do your work in the proprietary?

22 A You want to be able to backtrack to the

Page 96

1 MR. ESCOBAR: Yeah, yeah.

2 MR. MARTIN: Okay.

3 THE WITNESS: So when I view the original  
4 format, so if I'm working in, say, a proprietary  
5 format, I view that original proprietary video in its  
6 original format. So I see what type of detail is  
7 there. I work and see if there's an output function  
8 from that DVR or from that software; see if it's  
9 utilizing open format video on its back side; if it's  
10 doing an image overlay, which would be giving --  
11 including time and date on it, camera information,  
12 and that sort of thing.

13 So depending on what the case is, I either  
14 work in the proprietary or as close to it as I  
15 possibly can.

16 BY MR. ESCOBAR:

17 Q And if you're given a video that's been  
18 copied or cloned, how do you deal with that aspect in  
19 your image capture?

20 A Same thing. I mean, I try and go back to  
21 the original format that was captured. A clone in  
22 and of itself is an exact copy of what it was



Page 97

1 originally. And I work with what is given me.

2 Q Does the clone in any way alter the  
3 original?

4 A I haven't seen any alterations at least in  
5 any of the work that I've done in the last 20 years  
6 on this.

7 Q Okay. Because you've got to figure out how  
8 they cloned it, right? Do you ever inquire as to how  
9 the cloning process took place? How the copying  
10 process took place?

11 A Not usually. I mean, if it is corrupt or I  
12 see any major problems, I might go back, I might  
13 inquire was it cloned? Was it copied? How was it  
14 exported and that sort of thing.

15 Q Is there a difference between cloning and  
16 copying?

17 A Clone would be an exact copy. A copy could  
18 be nothing more than a drag in a computer and just  
19 copy it from file to file.

20 Q Okay.

21 A Which, again, usually doesn't change  
22 anything within the original format.

Page 98

1 Q The copy doesn't?

2 A Usually doesn't, no. It's usually a  
3 bit-for-bit transfer.

4 Q Okay. Okay, image capture. What else?

5 A Image capture, extracting single images  
6 from a video of itself is nothing more than capturing  
7 a single still image. That can be done within the  
8 proprietary or external to the proprietary using  
9 forensic software.

10 Q Does that in any way alter the detail of  
11 the image?

12 A I usually export out in uncompressed  
13 formats. Or, actually, I always go out in  
14 uncompressed formats so it doesn't lose any detail.

15 Q How do you export in an uncompressed  
16 format?

17 A Usually in a TIFF format, the PMP format --  
18 or BMP format.

19 Q So TIFF?

20 A Uh-huh.

21 Q And MP?

22 A BMP.

Page 99

1 Q BMP?

2 A Uh-huh. It's a lossless format.

3 Q Format?

4 A You don't lose any information. JPEG is a  
5 lossless or a lossy format in which it does compress  
6 the information. And I don't work in those formats  
7 usually.

8 Q Okay. Next?

9 A One of the main portions of video forensics  
10 or image analysis is getting that video into our  
11 software itself so we can apply different techniques,  
12 enhancement capabilities, putting it into the  
13 critical viewing. At that point I apply different  
14 filters and then export out --

15 Q So let's -- what do you call that next  
16 number five step here?

17 A Video processing.

18 Q Video processing?

19 A Uh-huh.

20 Q And video processing is getting that image  
21 into a means of having your software now enhance that  
22 image?

Page 100

1 A Yes.

2 Q If I'm saying something incorrectly, by all  
3 means, stop me and correct me.

4 A So we go back to the video forensic portion  
5 where we take it out of the proprietary format and  
6 get it into an open format and allow that import into  
7 a forensic platform.

8 Q So how do you get it out of the  
9 proprietary?

10 A It depends on the video itself. Sometimes  
11 a proprietary format will allow us to export that  
12 video in a format of -- open format. It could be in  
13 AVI. It could be in MOV. Or we could go back-step  
14 it and do -- use the original video that was within  
15 the video or that the proprietary is using, go back  
16 to that, and it's just reading. I can also do screen  
17 captures, which is nothing more than capturing the  
18 buffer screen behind the video itself. Or do a  
19 conversion of the proprietary in a program of what  
20 they call FFmpeg or another platform and convert it  
21 from a proprietary format to an open format.

22 Q And you would agree that that whole process

1 is a process that mainly is done with software?  
2 A Yes.  
3 Q Proprietary type of software that --  
4 algorithms that you have no knowledge of how it  
5 works?  
6 A I wouldn't say no knowledge, but I would  
7 say that a lot of it is proprietary, yes.  
8 Q Which means you don't know?  
9 A I don't know the actual algorithms that  
10 they use, no.  
11 Q Okay. So how is then -- I guess you're  
12 pretty close to the enhancement --  
13 A Uh-huh.  
14 Q -- part, right?  
15 A Yeah.  
16 Q Are you using Photoshop?  
17 A For image enhancement, I usually use  
18 Photoshop.  
19 Q Okay. So for image --  
20 A Uh-huh.  
21 Q -- Photoshop. And is there any particular  
22 -- Photoshop Pro, Photoshop what?

1 A I -- at the time, depending on when I've --  
2 again, iterations of Photoshop come out, I use  
3 primarily 2014 right now and '15. I believe '16 and  
4 '17 have been released.  
5 Q Have or have not?  
6 A Have.  
7 Q Have?  
8 A Uh-huh.  
9 Q But you use '14 and '15?  
10 A '14 and '15.  
11 Q You don't use '16?  
12 A Not on a regular basis, no.  
13 Q Why is that?  
14 A I haven't gone to the Photoshop 2016 -- or  
15 '15 and '16 training. I'm more familiar with the  
16 2014 product.  
17 Q Well, they generally enhance these things,  
18 do they not?  
19 A Sometimes. Depending.  
20 Q And do you know what enhancements took  
21 place in 2015? Do you know what enhancements took  
22 place in 2016?

1 A I would have to read through the scripts.  
2 The majority of the software that I use are -- or at  
3 least in the Photoshop, those filters are very  
4 specific and those algorithms usually don't change as  
5 far as the enhancement purpose.  
6 Q Okay. So your next step is -- and that's  
7 within step five, the video processing?  
8 A Uh-huh.  
9 Q You're using software for images like  
10 Photoshop?  
11 A Uh-huh.  
12 Q And what about for video?  
13 A My primary platform is Adobe Premiere.  
14 Q Adobe. And why Adobe Premiere?  
15 A It's a professional program that I have  
16 used for a very long time. I'm very familiar with  
17 it. I've taken multiple training courses on it, and  
18 it utilizes everything that I really need.  
19 Q And what software year do you use for that?  
20 What software year?  
21 A 2015 -- or 2014 is my primary, and I have  
22 used 2015. I have dabbled in 2016, just to see some

1 of the stabilization filters that they use.  
2 Q Okay. So let's start with the image first.  
3 Tell me, how is it that you're going to enhance that  
4 image?  
5 A It depends on what the actual area of  
6 interest is in. A lot of it is lightening,  
7 sharpening the pixels, doing what they call a shadows  
8 and highlights enhancement. I try to do as less as  
9 possible with any type of enhancements to degrade or  
10 change the actual information within that video.  
11 Q You try to do the least --  
12 A Yep.  
13 Q -- possible, right?  
14 A I do the minimal.  
15 Q And so how do you do the least possible?  
16 What steps do you take in your process to do the  
17 least possible?  
18 A So I define what type of area of interest  
19 that I'm trying to enhance. I look primarily at the  
20 filters that I'm applying to --  
21 Q Filters?  
22 A Filters, yeah.

Page 105

1 Q And what are the filters? Before we get  
2 into the process, I guess we probably ought to know  
3 those. Those are very important, right?  
4 A Yeah, depending on what I'm doing.  
5 Q Okay. Well, you're in Photoshop?  
6 A Okay.  
7 Q Filters?  
8 A Uh-huh. Levels.  
9 Q Levels. What's a level?  
10 A Levels is being able to change the  
11 lightness and darkness and contrast, basically the  
12 brightness and contrast of an image.  
13 Q And how do you do that?  
14 A By changing the lightness and the contrast.  
15 Q So how do you do that physically on the  
16 computer?  
17 A You apply a levels filter, and it gives you  
18 a visual view of where that -- or where those pixels  
19 are in a graphic view from true black to true white.  
20 Q Right.  
21 A And you can either pinpoint using a dropper  
22 basically where the true white or true dark is, and I

Page 106

1 would say 100 percent of the time it's a visual  
2 aspect to my visual content to change it.  
3 Q So you're trying to pick colors, for lack  
4 of a better word?  
5 A Actually, it would be shades.  
6 Q Shades, okay.  
7 A Shades. Most of the video that we're  
8 dealing with -- at least in this case -- and it's  
9 pretty close to being black and white. So, I mean,  
10 it's very dark. You've got whites and you have  
11 darks.  
12 Q Black, white, black, white. Somewhere in  
13 between gray, right?  
14 A Yep.  
15 Q So you're picking shades?  
16 A Uh-huh.  
17 Q And you're trying to pick shades that what?  
18 That closest resemble the pixels within the object?  
19 A No. What I'm trying to do is be able to  
20 give a critical viewing of the area of interest so an  
21 individual could define the detail in that area.  
22 Q Well, why would you not want to pick the

Page 107

1 shades that are closest to the shades within the  
2 pixels that make up your focus of the object?  
3 A I have no idea what you just said.  
4 Q Okay. Well, you've got an image, and  
5 you've got some object within that image that you  
6 want to focus on.  
7 A Uh-huh.  
8 Q And it's a small object.  
9 A Okay.  
10 Q And so you want to enhance certainly the  
11 focus of that object.  
12 A Okay.  
13 Q And you're telling me, Hey, look, Rick, one  
14 of the things that I want to do is I want to look at  
15 the shades within that particular object, right? And  
16 the pixels?  
17 A What we try and do -- or what I try and do  
18 is equalize the area to where you can, as I stated  
19 before, get as much detail out of that as you can.  
20 So if it's in a darker area, I try to lighten up that  
21 area to define the detail in the shadows. If it's in  
22 a highly bright area, I try and lower the brightness

Page 108

1 of the area so you can define the detail around that  
2 area so you can see what's going on.  
3 Q And so how do you pick the shades  
4 themselves? Is there an array of different shades  
5 that you can pick and drop into a --  
6 A No, for the levels adjust what we're doing  
7 is we're looking at basically three sliders. We're  
8 looking at true white, true dark and then a center  
9 point. If you hit the alt button, it will actually  
10 show, as you make that adjustment, what exact pixels  
11 within the imagery you are adjusting. So I can  
12 visually define what's going on in the levels adjust  
13 by a visual cue.  
14 Q Do these filters have, like, names?  
15 A Levels adjustment.  
16 Q What's that?  
17 A Levels adjust.  
18 Q No, do they have any specific names?  
19 A That's what it is. It's levels adjust.  
20 Q Levels adjust?  
21 A Uh-huh.  
22 Q That's the one that you use. Is there

Page 109

1 anything else in Photoshop other than levels adjust?

2 A There's hundreds of filters. And, again,  
3 it depends on what I'm doing within the imagery.

4 Q Have you ever heard of a filter -- maybe  
5 this is not a filter. It's called Nearest Neighbor?

6 A Yes, that is a -- that is used for  
7 interpolation. That's not a filter. That is for  
8 increasing or decreasing the size of an image itself.

9 Q So that's a second step that you take?

10 A That is image adjustment.

11 Q Okay. So now you're trying to either  
12 lighten the image or darken the image, and you're  
13 telling me that this is done basically by the  
14 algorithm of the software and -- but it allows you to  
15 tell what pixels are being lightened and what pixels  
16 are being darkened?

17 A I do it on my assertion to what area that I  
18 am trying to enhance. I utilize this filter to the  
19 point where I believe it has applied what I want to  
20 in that certain area to a certain point.

21 Q If you're brightening that particular area,  
22 are you changing it?

Page 110

1 A Well, of course. I mean, enhancement  
2 itself is changing from the original to the enhanced  
3 version.

4 Q So you're changing the color intensity?

5 A You're changing the level output.

6 Q And what does that mean?

7 A So the brightness or the darkness. The  
8 contrast, that's what it would be.

9 Q You're changing it?

10 A Yes.

11 Q And why is that appropriate?

12 A That's enhancement. That is the basis of  
13 enhancement. So unlike computer forensics where you  
14 don't change anything and you view what you have,  
15 enhancement in and of itself is changing the visual  
16 content to enhance the detail of that imagery.

17 Q And what are the dangers of that?

18 A For me, myself, there are no dangers,  
19 because I can --

20 Q Well, it's not going to hurt you. What are  
21 the dangers of the integrity of that process?

22 A My integrity is strong, because I know

Page 111

1 exactly what I'm doing.

2 Q What does that mean?

3 A It means that I don't go beyond  
4 deconstructing or destroying or changing the action  
5 of that imagery or the video. I'm controlling what  
6 I'm changing.

7 Q How do you know that you're not destructing  
8 that --

9 A Because I know what I've been doing for  
10 quite a few years.

11 Q No, I know, but what -- you know, what  
12 would make you think that you've gone beyond your  
13 limit?

14 A I look at the actual output compared to  
15 what it is in originally, and if I've gone too far,  
16 I'd bring it back.

17 Q And the output meaning?

18 A My final product.

19 Q Is the output in some form of numerical  
20 number?

21 A No, it is a visual context, usually dealing  
22 with an imagery.

Page 112

1 Q So it's basically your judgment?

2 A My professional judgment, yes.

3 Q Okay. So you've talked about this process?

4 A Uh-huh.

5 Q What do you do next?

6 A So there's levels. There's shadows and  
7 highlights. There's sharpening. There's unsharp  
8 mask. There is placing the imagery in a certain  
9 order. And then once all of the enhancement itself  
10 is done, there's the output.

11 Q And all of those levels that you're talking  
12 about are all done by the software?

13 A Yes.

14 Q And you don't know really how those  
15 algorithms work, because, again, they're proprietary?

16 A It's proprietary.

17 Q And you're relying on that software to do  
18 what it's doing?

19 A Yes. And I have been using that software  
20 for a very long time. Usually the input has been  
21 tested on the output, and the exact same formats have  
22 been done over and over and over again. Forensic

Page 113

1 laboratories use the software and have tested the  
2 software multiple times and have found no problems  
3 with it.

4 Q Is there a way of doing the same thing that  
5 you're doing without software?

6 A Without software?

7 Q Uh-huh.

8 A Not that I'm aware of. I mean, forensic  
9 enhancement is forensic enhancement. Anything these  
10 days is utilized in software. I mean, even playing  
11 the video, you'd have to use some sort of software to  
12 play it.

13 Q Well, I realize you have to use it to play.  
14 I'm talking about to enhance it. Is there any method  
15 of enhancing a photo without actually using the  
16 software algorithms?

17 A I guess you could change the brightness and  
18 contrast on the monitor that you're viewing --

19 Q Okay.

20 A -- for a visual change, but that's not  
21 changing the video itself. That is changing just the  
22 visual aspect of it in a full concept. So you're

Page 114

1 looking at a full change versus minor changes that I  
2 normally do.

3 Q Next?

4 A Next as far as?

5 Q Your next process. Are you done?

6 A For an image?

7 Q Yeah.

8 A It would be -- I could either resize it or  
9 export it out in its original size and then print it,  
10 save it, record it to a media output, and then send  
11 it on its way. After, of course, doing an MD5 hash  
12 in.

13 Q Now, I mentioned Nearest Neighbor a few  
14 minutes ago to you. And what is Nearest Neighbor?

15 A Nearest Neighbor, it is an interpolation  
16 process that computer algorithms use to increase or  
17 decrease the size of an image.

18 Q And do you use that?

19 A Nearest Neighbor? No. Well, I do if the  
20 visual aspects of that scene are very square or very  
21 esthetic and very clear.

22 Q And why? Why do you only use it in those

Page 115

1 circumstances?

2 A Because Nearest Neighbor itself copies --  
3 not really copies. It's an interpolation process  
4 that, say, Adobe Photoshop uses. One way of  
5 increasing it, that it derives that pixel right next  
6 to it. So it's just --

7 Q Meaning?

8 A Meaning?

9 Q That in -- it uses those same colors in the  
10 pixel?

11 A No. Well, it's just --

12 Q Like the shades? Not colors.

13 A It's an interpolation process that a  
14 computer algorithm uses to increase or decrease an  
15 image.

16 Q Well, how does it do it?

17 A It takes the computer pixels, and it  
18 derives a certain amount, and then utilizes that  
19 computer function to replicate those pixels.

20 Q Well, but what shading process does it use?

21 A It uses the algorithm process to increase  
22 or decrease the imagery using the -- or, excuse me,

Page 116

1 the Nearest Neighbor computation. There's a  
2 multitude of interpolation processes out there, and  
3 depending on which one you use, uses a different  
4 algorithmic process.

5 Q Well, I realize that. I'm more concerned  
6 right now with Nearest Neighbor since you know about  
7 it.

8 A Uh-huh.

9 Q But you don't use it except for certain  
10 circumstances, correct?

11 A There are -- yeah. I mean, depending on  
12 what -- what process you use, you would use different  
13 types of interpolation process or interpolation  
14 algorithms.

15 Q So let's get back to Nearest Neighbor and  
16 tell me -- you know, you have an image or an item  
17 within an image that is three pixels by two pixels in  
18 size, and you want to use this Nearest Neighbor  
19 interpolation. How does, you know, the Photoshop  
20 work with that particular selection?

21 A You select the interpolation process of  
22 Nearest Neighbor, it uses the Nearest Neighbor

1 algorithm.  
2 Q Yeah, but let's stop there for a -- uses --  
3 you've got to know what that means before --  
4 A Right.  
5 Q -- you decide, Hey, I'm going to use it,  
6 right?  
7 A (Witness nods head.)  
8 Q So how does Photoshop use those particular  
9 shades in order to interpolate?  
10 A It's the selection process of what it uses  
11 to multiply the pixels and the algorithmic process to  
12 increase the size of the image.  
13 Q What does it use for shading? Is there  
14 any --  
15 A Well, if you have one pixel and you want to  
16 do it times four, it will take the four nearest ones  
17 and then increase it times four.  
18 Q Okay. So that's why it's called Nearest  
19 Neighbor?  
20 A Yes.  
21 Q And what's the problem with that?  
22 A There is no problem.

1 Q Because you're not necessarily selecting a  
2 particular shade, you're selecting the shade that is  
3 Nearest Neighbor to the specific item within an image  
4 that you're focusing on, right?  
5 A Again, it really depends on the imagery  
6 you're dealing with, because you use certain  
7 algorithmic processes depending on the imagery that  
8 you're viewing to get that. So a Nearest Neighbor --  
9 the best process of using a Nearest Neighbor  
10 interpolation would be like on a checkerboard where  
11 you have a discerned black and white line to where  
12 you want to increase that size and not lose that one  
13 distinct line between black and white. So for  
14 Nearest Neighbor that is exactly what you want to use  
15 in that interpolation process with, because there are  
16 straight lines and very discernable creases or, say,  
17 black and white lines within that imagery. That's  
18 where you would use the Nearest Neighbor  
19 interpolation.  
20 Q Okay. And so if you're not predominately  
21 using Nearest Neighbor, what is your preference?  
22 A A lot of times I use the Bicubic Smoother.

1 Q Bicubic Smoother?  
2 A Uh-huh.  
3 Q And why?  
4 A So the Bicubic Smoother will not degrade or  
5 insert specific lines within it, and it keeps the --  
6 how would I say this? It keeps the integrity that  
7 I've found during my forensic processing, it keeps  
8 the integrity of the image as a whole as it increases  
9 the image.  
10 Q Any other ones that you -- it seems like  
11 this is a preference of yours.  
12 A It is. I've tested them and looked at the  
13 different imagery. Again, it's a visual content of  
14 what you're looking at and what you're trying to  
15 define within enhancement. I found that in a lot of  
16 these especially lower quality videos that I have  
17 that I have processed, that the Bicubic Smoother  
18 increases the visible detail within that imagery and  
19 keeps it intact.  
20 Q Does it increase the shade?  
21 A You're increasing the image as a whole, so  
22 you're multiplying that image times whatever you're

1 doing. So it's taking that imagery and increasing  
2 it. It's just --  
3 Q But is it changing the shade?  
4 A It's not changing the shade. It is  
5 multiplying it and increasing the size.  
6 Q Okay. Anything else that you really  
7 gravitate to in these low quality --  
8 A No.  
9 Q So that's really your -- the one that you  
10 like to use?  
11 A It is, yes.  
12 Q Do you use different ones during your  
13 analysis of an image?  
14 A Different interpolations?  
15 Q Uh-huh. Just to see whether you're going  
16 to get something better with another?  
17 A It depends. Again, it depends on what type  
18 of analysis that I'm doing, whether I'm doing a  
19 facial comparison analysis, whether I'm doing a  
20 make/model, whether I'm doing an action analysis,  
21 just to show the detail of what's going on within the  
22 video itself. Sometimes I have, sometimes I don't.

1 Q Okay. Anything else in the process?  
2 That's basically the process that you use for images;  
3 is that correct?  
4 A On this one, yes. I mean, again, it really  
5 defines on what I'm looking at.  
6 Q What about video? Anything different?  
7 A Video could -- again, depending on the type  
8 of examination, it could go into depth to  
9 demultiplexing, shading or highlighting different  
10 aspects of the video to show this is where the action  
11 is amongst everything else. I can put highlights  
12 around individuals. I put circles around individuals  
13 to follow them through crowds, increase that area.  
14 You know, so resize an area of the video so  
15 20 percent is where the action is, so I try and  
16 resize into that area, and 90 percent of the area is,  
17 you know, not visible, not required. Slow the video  
18 down is another one.  
19 I mean, again, it really depends on the  
20 different process that I'm doing.  
21 Q Okay. Let's finish with your CV, and then  
22 we'll start getting to your actual work that you did

1 in this case. I want to make sure that I have  
2 touched upon -- you had indicated that at least in  
3 your testimony today, I think -- and I may be  
4 incorrect, and correct me if I'm wrong. But that you  
5 worked as a technical security countermeasure  
6 specialist for three months?  
7 A Just a couple of months. So it was a  
8 transition between the FBI and the State Department.  
9 I could have stayed on. There was a short-term  
10 technical surveillance countermeasures two floors  
11 down from where I was working. I had already gotten  
12 the offer from the FBI, so it was just a transitional  
13 position.  
14 Q Your CV indicates February to August. Is  
15 that a typo?  
16 A I'd have to really go back. It was  
17 somewhere around there. It wasn't that long. Okay,  
18 yeah, February to August.  
19 Q Well, was your testimony correct, or could  
20 there have been a typo here in --  
21 A No, I would say it's probably February to  
22 August.

1 Q Okay.  
2 A It wasn't that long in the grand schemes of  
3 things for me.  
4 Q Okay. So let's talk about Exhibit Number  
5 1. And we're going to go through it together.  
6 A Do you mind if we take a quick five-minute  
7 break?  
8 MR. ESCOBAR: Not a problem. Let's take a  
9 break.  
10 (Whereupon, the deposition recessed at  
11 10:17 a.m. and resumed at 10:27 a.m.)  
12 BY MR. ESCOBAR:  
13 Q Okay. A couple of things that I forgot to  
14 ask you. What is IAI? International Association for  
15 Identification?  
16 A Yep. So that's a consortium of forensic  
17 examiners that have put together basically a -- it's  
18 a group of people.  
19 Q Are you certified with them?  
20 A No.  
21 Q And have you attempted to be certified with  
22 them?

1 A I have looked at the -- so right now  
2 they're transitioning the test format from a lot of  
3 it analog to digital. I know the people that  
4 designed the test. I've kept up with it from Marla  
5 all the way up -- I guess Kim Meline right now is  
6 changing the test over. Once they get settled down,  
7 I'll probably start looking at it.  
8 Q So you haven't before? You haven't --  
9 A No.  
10 Q -- attempted to be certified by that group?  
11 A No, it's -- I think the certification is  
12 relatively new. I think it's within the last two  
13 years, I believe, that they just started doing it.  
14 Q Is that an important certification?  
15 A Not for me.  
16 Q Well, not necessarily just for you. Is it  
17 an important -- is it worthwhile?  
18 A I guess it really depends on the examiner  
19 and what field they're in. I mean -- so there was --  
20 for the longest time certification process was  
21 usually in-house. LEVA had -- the Law Enforcement  
22 and Emergency Services Video Association had a video



Page 125

1 forensic certification. Those two -- or that one was  
2 really the only one that was out there. A couple of  
3 years ago they started to put together a  
4 certification board, a certification process that has  
5 morphed into what it's, you know, coming up to be.

6 I mean, if you -- I guess those people that  
7 don't have another way to become certified, that is a  
8 way for them to become certified.

9 Q So you're not IAI certified, nor LEVA  
10 certified?

11 A No, no. LEVA is primarily on an Avid  
12 system. That is through their certification process.  
13 Their basic certification process is minimal to me.  
14 I mean, it's -- I've been told many times by my  
15 bosses that it's too basic for what I do. So, no, my  
16 certification's within the FBI and years of training  
17 and capabilities and cases and OJT, and so on and so  
18 forth.

19 Q And do you know -- I forgot -- I know I  
20 asked you about Bruce Koenig. Do you know Doug  
21 Lacey?

22 A I know the name.

Page 126

1 Q Do you know anything about Doug Lacey?

2 A I just -- I know the name as far as people  
3 talking about him, but as far as what he's done --

4 Q Do you know what his reputation is?

5 A Not off the top of my head.

6 Q Do you know him to be affiliated with Bruce  
7 Koenig?

8 A Again, I don't know the affiliation. I  
9 don't know them personally.

10 Q Okay. I want to ask you this question  
11 again, because it was one that I had done some  
12 research on. And I know you -- I think you answered  
13 it, but I want to make sure that I'm clear on your  
14 answer. The difference between a technician and an  
15 analyst in your field.

16 A So a technician is usually strict  
17 processing. They have no opinionated testimony onto  
18 it. At least within the Bureau. So a technician  
19 will bring in whatever media that they have. They  
20 have a certain construct of they apply this, they do  
21 this, they export it. They can testify to a  
22 nonexpert analysis of it, but they do not have an

Page 127

1 opinion-based background to that analysis or a  
2 scientific background and that sort of thing. At  
3 least within the Bureau.

4 For my standpoint and in the Bureau's  
5 standpoint as far as an examiner, a photographic  
6 technologist, we give opinions -- opinion-based  
7 testimony to examinations to videos to imagery on the  
8 process that I put forth.

9 Q Does someone help you in that process? In  
10 other words, does a technician do some of your work,  
11 and then you take over that process later on to be  
12 able to give the opinions?

13 A So, that used to be the way the FBI used to  
14 do it. So technicians would process it and agents  
15 would go out and testify. They, you know, all knew  
16 exactly what they were doing, but the bulk of the  
17 work was done by technicians. For me, personally,  
18 the only time another person might do some of the  
19 work is a trainee. As I review their work and I  
20 train them, they'll process through one of my  
21 examinations, sort of like OJT. I'm over their  
22 shoulder most of the time, telling them what to do,

Page 128

1 and that sort of thing. And then at the end I  
2 recheck all of their work. And then the analysis  
3 process, I would take over. Or, again, show them and  
4 lead them down the way.

5 Q One other area that I wanted to rehash with  
6 you -- just kidding -- hash value. Is a hash value  
7 an authentication tool?

8 A No, a hash value is a verification tool.  
9 So a hash, in and of itself, is not authenticating  
10 anything other than the integrity of the original to  
11 a copy. So, again, it's like a fingerprint. So if I  
12 hash an image, and I move that image, copy that image  
13 over to another drive, I can hash that image, and the  
14 integrity between those copies can be verified. It's  
15 not saying that that video -- the original one has  
16 been tampered with or has not been tampered with. It  
17 is just a fingerprint to that media or to that  
18 electronic file as defined originally.

19 Q Okay. Let's go back to this -- you must  
20 have it there, Defense Exhibit Number 1; is that  
21 correct?

22 A (Indicating document)



Page 129

1 Q Okay. I just wanted to make sure we were  
2 -- we were dealing with Defense Exhibit Number 1.  
3 This is a composite of a discovery that I received  
4 from Mr. Martin. And we're going to go through it,  
5 because it's important. And the first page is an  
6 April 21st, 2016 letter. And it's addressed by  
7 Mr. Martin to an individual by the name of Bryan  
8 Earl. Do you see that?

9 A Where? What page are we talking about?

10 Q Second page there.

11 A Second page?

12 Q Yeah. Have you ever read this two-page  
13 letter by Mr. Martin?

14 A I think I was copied on this.

15 Q Did you read it?

16 A Do you want me to read it now?

17 Q No. Did you read it?

18 A I probably read it back last year at some  
19 point.

20 Q Okay. So let's go through it and we can  
21 read it, you know, obviously, you know, together.

22 A Uh-huh.

Page 130

1 Q It starts off by: Dear Mr. Earl, this case  
2 of State of Florida versus Curtis Reeves involves the  
3 shooting on January 13th, 2014 of a theater patron  
4 inside a movie theater in Pasco County, Florida. The  
5 shooting by the defendant was partially captured on  
6 the theater's motion sensor video surveillance  
7 system. The defendant has filed a motion seeking  
8 immunity from prosecution based upon his right to use  
9 deadly force to prevent death or great bodily harm or  
10 the commission of a forcible felony. The video is of  
11 low quality and does not play (sic) in real time.

12 And so Bryan Earl is whom?

13 A Him (indicating.)

14 Q And the process of sending this to Bryan  
15 Earl was to allow you all to be able to testify in  
16 this --

17 A Correct.

18 Q -- particular case?

19 A Yes, it is.

20 Q But you got copied on this?

21 A Yes.

22 Q And so you read it?

Page 131

1 A At some point.

2 Q Do you know if this letter you received  
3 before or after you started your processing of the  
4 evidence in this case?

5 A This would be after.

6 Q After?

7 A Uh-huh.

8 Q Okay. So this is not a letter that you  
9 actually received prior to you -- the start of your  
10 work?

11 A No, I wouldn't. So, my dealing with the  
12 prosecutor would be either during the time that we  
13 do, you know, a court deal, or I get a -- usually  
14 subpoenaed for court. I believe that I did speak to  
15 him on occasion for this case, but my main dealings  
16 is with the case agent.

17 Q Well, let's -- we might as well get --  
18 we're on this, we might as well get through this  
19 particular letter and see what you agree and what you  
20 don't agree with that letter. We're not going to go  
21 much into Mr. Earl's letter, because it's not  
22 relevant here. But it says, The video is of low

Page 132

1 quality and does not play (sic) in real time.

2 Do you agree with that statement?

3 A I mean, yeah. I mean, it's -- it is low  
4 quality, and it does not play in real time.

5 Q What does that mean it does not play in  
6 real time?

7 A So, realtime video, in essence, of NTSC  
8 video is 30 frames a second. This had -- this  
9 particular video had a variable recording speed and  
10 was only activated to record during change of motion  
11 or change of pixel values within the video itself.

12 Q Is that what you mean by variable?

13 A Variable is a recording speed frame rate.

14 Q Okay. And so the 30 frames per second?

15 A It's a national standard for NTSC.

16 Q This was not playing in that --

17 A No.

18 Q -- standard?

19 A No. A lot of your video CCTV systems  
20 don't.

21 Q So that statement is correct?

22 A Uh-huh.

1 Q The next paragraph: Hard drives and thumb  
2 drives containing relevant theater surveillance video  
3 were sent to the FBI for analysis. Anthony Imel, FBI  
4 was assigned to the case. At the State's request he  
5 conducted an analysis of the theater surveillance  
6 videos to determine if the videos were, number one,  
7 authentic.

8 A Uh-huh.

9 Q So we're going to put authentic. Number  
10 two, to time-adjust the videos?

11 A Uh-huh.

12 Q And, number three, to enhance the videos?

13 A Uh-huh.

14 Q And, number four, to make several  
15 presentations --

16 A Uh-huh.

17 Q -- containing the original --

18 A Uh-huh.

19 Q -- time-adjusted and enhanced video?

20 A Uh-huh.

21 Q That could be presented to the Court.  
22 Is that what you were requested to do in

1 questions touching upon his training -- I think we've  
2 done that already, right?

3 A Yes, sir.

4 Q Number two, background and experience. I  
5 think we've done some of that.

6 A Yes, sir.

7 Q Video and image analysis.

8 A My duties carried out within this  
9 laboratory, yep.

10 Q The accreditation of the laboratory?

11 A Okay.

12 Q Chain of custody?

13 A (Witness nods head.)

14 Q The hardware and software used?

15 A Uh-huh.

16 Q Best practices? Your findings and  
17 opinions?

18 A Uh-huh.

19 Q Derived from the examination and analysis?

20 A Yep.

21 Q Of both the hard drives and the thumb  
22 drives?

1 this case?

2 A It was.

3 Q Is there anything other than that that you  
4 were requested to do in this case?

5 A Yes. So I was asked to do a reverse  
6 projection.

7 Q Okay. So the ones that are not contained  
8 at least in that paragraph are reverse projection?

9 A Uh-huh.

10 Q Okay.

11 A And I believe that was basically it.

12 Q Okay. So let's -- we'll go through that in  
13 just a second.

14 Upon receipt of Mr. Imel's report and video  
15 files the State intends to introduce evidence at any  
16 hearing or trial, the State is obligated by the  
17 Florida Rules of Criminal Procedure to provide a copy  
18 of said materials to the defense. Under Florida  
19 discovery rule, the defense is entitled to take a  
20 criminal deposition. Criminal discovery deposition.

21 Next paragraph: During the defense  
22 discovery deposition, I expect Mr. Imel will be asked

1 A (Witness nods head.)

2 Q And how you produced and compiled the  
3 videos in the presentation, right?

4 A Yes, sir.

5 Q That's what you have done in this case?

6 A Yes.

7 Q Anything more?

8 A No.

9 Q Okay. It also goes on to say: During the  
10 hearing or trial, the State will go through the same  
11 line of questioning as took place in the defense  
12 discovery deposition. In addition, the State will  
13 need to lay the predicate for admissibility of the  
14 original and subsequently enhanced theater  
15 surveillance videos. Mr. Imel's testimony will  
16 include whether or not there was any evidence of  
17 editing or tampering with the videos being offered  
18 into testimony; describing the process by which he  
19 authenticated the videos; the reliability of the DVD  
20 generated timestamp?

21 Is -- the DVD generated a timestamp?

22 A The DVR does. So the media does -- there's

Page 137

1 two actually embedded timestamps on the video.

2 Q Well, this says the reliability of the DVD  
3 generated timestamp. Did you do that?

4 A I've made several DVDs.

5 Q Well, but this sentence says, The  
6 reliability of the DVD generated timestamp.

7 Does a DVD generate a timestamp?

8 A No, a DVD is media.

9 Q Did you have any discussions with  
10 Mr. Martin concerning that request?

11 A Not a DVD generated timestamp. It would be  
12 a DVR. It might be a typo.

13 Q Is this the first time that you've realized  
14 that that may be a typo?

15 A Yeah, could be.

16 Q So you have not had a discussion with him  
17 that a DVD can't generate a timestamp?

18 A No, a DVD is media. It doesn't generate  
19 anything.

20 Q Okay. How it is produced?

21 A Uh-huh.

22 Q And is it accurate?

Page 138

1 A Uh-huh.

2 Q The process he used and how the  
3 enhancements he made to the videos did not alter the  
4 content of the video?

5 A Uh-huh.

6 Q And still contains accurate critical facts  
7 within it?

8 A Uh-huh.

9 Q Let's take a look at that one. Did you  
10 discuss with him about containing accurate critical  
11 facts within it? What are accurate critical facts?

12 A To ensure that I did not change the content  
13 of the video.

14 Q Well, that has nothing to do with the term  
15 critical facts.

16 A Critical --

17 Q What critical facts was --

18 A Critical facts are defined by the  
19 individual stating critical facts. So what you see  
20 as critical would be different than what Bryan sees  
21 as critical, which would be different than what I  
22 would see as critical.

Page 139

1 Q Did anybody tell you what the critical  
2 facts in this case were?

3 A No.

4 Q Okay. And so as you sit here today under  
5 oath, you have no idea what the critical facts are?

6 A Again, the critical facts could be  
7 different for you as compared to what the prosecution  
8 is.

9 Q Well, I realize that. But as you sit here  
10 today, nobody has told you what the critical facts in  
11 this case are.

12 A I would gather that the critical facts  
13 would be the process of which an individual got shot,  
14 would be my guess.

15 Q Well, again, nobody told you what the  
16 critical facts are. I don't want you to guess. If  
17 nobody told you what the critical facts are, just  
18 say, Look, Rick, nobody ever told me, nobody ever  
19 discussed what the critical facts were.

20 A I've defined or I've discussed with the  
21 prosecution and with the case agents what has gone on  
22 with the video, what they are requesting from the

Page 140

1 video, but no one's used critical facts. That  
2 verbiage with me.

3 Q What case agents?

4 A Oh, let's see here. The requested case  
5 agent is James Bucenell. Is that how you say his  
6 name?

7 MR. MARTIN: I don't know.

8 A Was the requested case agent.  
9 B-u-c-e-n-e-l-l. And then what was the case agent  
10 that you're dealing with? I can't remember his last  
11 name.

12 MR. MARTIN: You'd have to ask him.

13 BY MR. ESCOBAR:

14 Q Smith, Proctor?

15 A I'd have to go back into --

16 Q Fraley?

17 A It doesn't sound familiar.

18 Q What do you mean --

19 A He's on the task force.

20 Q What do you need to go back to?

21 A Just to remember or remind myself who that  
22 case agent was. This was a year ago. So go through

Page 141

1 my e-mails and just remember who it was.  
2 Q Okay. Well, what do you believe were the  
3 critical facts in order for you to have to process  
4 this video and these images?

5 A The movement of the subject, movement of  
6 the victim, the interaction of those two individuals,  
7 and then the altercation, and then the outcome.

8 Q Okay. Well, who told you who the victim  
9 was?

10 A That would be through the electronic  
11 communication that I received from the case agent.

12 Q Well, where is it?

13 A I don't -- I just have the reports.

14 Q Well, can you pull it up?

15 A The victim?

16 Q No, your electronic communication.

17 A No, it's electronic. I don't have it with  
18 me.

19 Q Is it like an e-mail?

20 A No, it would be in an electronic  
21 communication. It would be a request from the case  
22 agent to me.

Page 142

1 Q And you remember what he told you?

2 A If I recall, it was just enhancement of the  
3 video and then -- yeah, just enhancement of the  
4 video.

5 Q He just says, Hey, enhance the video,  
6 right?

7 A Most of them do.

8 Q Didn't give you any particular facts or  
9 anything, right?

10 A There was a discussion on the phone about  
11 the collection, what happened during the altercation,  
12 and then asked me to enhance the video.

13 Q But how are you going to identify who the  
14 victim was, because you've indicated that that was a  
15 point of interest to you?

16 A Visually I can see that an individual was  
17 shot at the theater. It didn't take an overstep of  
18 myself to say that that was the victim.

19 Q You could identify in that video who the  
20 victim -- you could tell features? You could tell  
21 all sorts of characteristics of that individual?

22 A An individual getting shot and fall down.

Page 143

1 Over my years of viewing video, I could take that on.

2 Q Okay. What were his physical  
3 characteristics?

4 A The man who got shot?

5 Q Yeah.

6 A He was standing and then fell.

7 Q That's about all you can tell me?

8 A On that one camera, yeah.

9 Q On any of the cameras?

10 A The one camera that visibly shows him  
11 falling down to the ground.

12 Q Camera 11?

13 A I can't remember if it was Camera 11 or  
14 Camera 12. So the right side and then the left side.

15 Q Okay. So the best that you had with  
16 reference to -- was that there was a man falling  
17 down?

18 A They give me a timeframe. The video itself  
19 was very short. After reviewing the video, I could  
20 see an altercation. At that point in time I enhanced  
21 video.

22 Q So nobody actually pointed the victim to

Page 144

1 you, is what you're saying is that you just figured  
2 that out, because you looked at the video, and you  
3 saw someone falling down?

4 A That, and 20 years experience.

5 Q Well, what did the 20 years of experience  
6 add to seeing someone falling down?

7 A That I'm capable of reviewing a video and  
8 seeing that something's going on that shouldn't be  
9 going on in a theater.

10 Q Okay. What was that?

11 A An altercation between two individuals, the  
12 individual getting shot and then falling down.

13 Q You saw an altercation?

14 A Yeah, a discussion between two individuals.

15 Q You saw a discussion? Did you see  
16 anybody's mouth moving?

17 A No.

18 Q Can you tell me here and opine before you  
19 did any of the forensics --

20 A It was just a very simple review of the  
21 video. One of the simple things -- the first things  
22 that I do is review the video to identify the area of

1 interest.

2 Q So nobody -- nobody pointed this out,  
3 nobody sat with you and said, Hey, look, you know,  
4 Mr. Imel, I want to show you what -- you know, who we  
5 believe is Mr. Oulson and who we believe is  
6 Mr. Reeves, and, you know, who we believe is  
7 Mrs. Reeves, and who we believe is Mrs. Oulson? Or  
8 this is how many seats, you know, were in Row A, this  
9 is how many seats -- none of that?

10 A No.

11 Q Just give the video and let's enhance it?

12 A That is usually how it goes. If I have any  
13 questions, the case agent called me up, gave me an  
14 overview of what was going on, the collection of the  
15 video, and then I started my process.

16 Q Okay. We're going to continue going here,  
17 how it's produced --

18 A Uh-huh.

19 Q -- and is it accurate? The process he used  
20 and how the enhancement he made to the video did not  
21 alter the content of the video and still contains the  
22 critical facts within it, and that any duplicates of

1 the original theater surveillance videos were made  
2 and were produced by a method to ensure accuracy and  
3 genuineness.

4 A Okay.

5 Q Okay? And then the next letter pertains to  
6 counsel, who is here.

7 So you remember seeing that letter;  
8 however, what you're telling me is that, Look, Rick,  
9 I remember seeing that letter after I had already  
10 processed the video?

11 A Normally, that's how it goes. The letter  
12 is not processed until I'm requested to come testify.  
13 It's a Touhy letter. And that is his authorization  
14 as far as what I can testify to.

15 Q Even though this letter appears to be  
16 drafted and sent on April the 21st?

17 A I started this case on December 30th, 2015.

18 Q And when did you finish it?

19 A The last report was written -- the last  
20 report that I wrote was December 14th, 2016. And,  
21 unfortunately, the case hasn't completed, because I'm  
22 still here talking with you folks.

1 Q Okay. I'm going to show you what's been  
2 marked as Defense Exhibit Number 2 and ask you to  
3 take a look at that particular composite, if you  
4 would (tenders documents.)

5 And you're probably going to be most  
6 familiar with the photos that are towards the back of  
7 the exhibit --

8 A Uh-huh.

9 Q -- along with a report that I believe you  
10 authored as well; is that correct?

11 A April 27th? Yes, sir.

12 Q Okay. Did you ever get a copy of the  
13 additional list of documents and tangible evidence  
14 that is within this composite?

15 A As far as?

16 Q It's dated May 7th. Did you ever get a  
17 copy of that at all?

18 A I believe so. The prosecutor did send me a  
19 list of equipment or a list of media and images that  
20 were supplied, I suppose, from your expert from BEK  
21 TEK. Reviewed it as much as I did, and then set it  
22 aside.

1 Q So are those photographed within this  
2 exhibit?

3 A As far as media?

4 Q Yeah.

5 A Photographed?

6 Q Yeah. You've got some photographs there.

7 A No, this is the media -- looks like the  
8 media that I produced.

9 Q So tell me the media that was given to you  
10 that was purportedly by BEK TEK. And is it included  
11 in the -- any document that you see in Exhibit Number  
12 2?

13 A This looks like the media that I received.

14 Q And --

15 A Or that I actually produced.

16 Q When you're saying this is the media that  
17 you received --

18 A That I produced. I'm sorry, this is the  
19 media -- I'm sorry, I misread it. It looks like the  
20 media that I produced. And then -- yeah, this is the  
21 list of the media, the enhanced media that I produced  
22 on the first enhancement.

1 Q Okay.  
2 A My apologies.  
3 Q That's okay. So in addition to that, you  
4 were given some other media; is that correct? That  
5 you believed it was BEK TEK?  
6 A Yes, the prosecutor allowed me to view some  
7 of the things. Again, I looked at it vaguely and --  
8 Q I'm sure you've got a list of those items  
9 that you received from the prosecutor.  
10 A I do not.  
11 Q And why not?  
12 A Because it's not relevant to what I  
13 produced.  
14 Q Well, don't you memorialize what you get  
15 from the prosecution, that he's giving you things for  
16 you to review?  
17 A Uh-huh.  
18 Q So I would imagine that you would want to  
19 memorialize what you reviewed.  
20 A No. Again, what BEK TEK produced didn't  
21 really define anything that I produced. It was just  
22 an overview of what they had done, and I've made no

1 real point to take it any further.  
2 Q So as you sit here today, you have no  
3 recollection of what was contained critically in any  
4 of those exhibits that were given to you?  
5 A Not critically. Again, I try not to allow  
6 any other examination define what I do. So I looked  
7 at what they did, put it aside and then continued on  
8 with my stuff.  
9 Q Okay. So let's take a look at what we have  
10 here in the form of exhibits that, I guess, you  
11 generated --  
12 A Uh-huh.  
13 Q -- in this case. Initially, tell me what  
14 you were given by the prosecution in order for you to  
15 work with. Other than the BEK TEK. You told me,  
16 Hey, I just kind of looked at that and then set it  
17 aside?  
18 A Yeah. I didn't receive it from the  
19 prosecution. I received it from the case agent. I  
20 received two thumb drives and a hard drive.  
21 Q Okay. So --  
22 A My conversations from the prosecution came

1 later. At the beginning a lot of my stuff came  
2 directly from the case agent, explanations of what  
3 was going on, and then I pushed forward.  
4 Q Okay. So let's go to that report that's at  
5 the back.  
6 A Okay.  
7 Q And so we'll see what it is that -- we can  
8 take you through the process of what you -- what you  
9 actually received.  
10 Okay. It seems that the items submitted  
11 were an HQQ002790, and that's been -- on Page 1 of  
12 your Report of Examination, which is part of  
13 Composite Exhibit Number 2, correct?  
14 A Correct.  
15 Q And it's described as a USB Storage Device,  
16 1B1, E5722556, comma, Kingston 8 Gigabyte USB Drive,  
17 parenthesis, Examined.  
18 A Yes.  
19 Q What is that?  
20 A That is the USB drive that I received on  
21 that day.  
22 Q What was the source of that USB drive? Who

1 produced it? Who obtained it? How was it obtained?  
2 A Prior to, as far as I understand, you would  
3 have to deal with the case agent that sent this to  
4 me. I received it from him.  
5 Q So you have no idea how it was produced?  
6 A I've been given some vague overview about  
7 the collection process on this, but other than that,  
8 I received it directly. I received it from the case  
9 agent through my evidence control.  
10 Q What vague overview were you given of the  
11 -- of this particular item?  
12 A I was told that one of the initial thumb  
13 drives was collected the night of the altercation,  
14 the second thumb drive.  
15 Q By whom?  
16 A By the case agent. Again, this is a  
17 collection process prior to me.  
18 Q Who gave you that information? Your case  
19 agent?  
20 A Yes. Well, he said that it was --  
21 Q And he's an FBI agent.  
22 A Yes. Well, I believe. It was either the

1 FBI agent or the task force individual so -- the  
2 agent that called me. So as far as I was told is  
3 that the night of the shooting there was a collection  
4 of video from the -- on a USB drive. At a later  
5 point -- I believe the day after, there was more  
6 video that was collected. And then the hard drives  
7 were selected at some point.

8 Q Okay. So let's talk first about this 2790  
9 USB. I want to use those last four digits to make it  
10 easy so that we don't have to say HQQ00. Okay?

11 A That's fine.

12 Q That 2790 USB, you have no idea who  
13 collected that?

14 A No. You would have to go back into the --

15 Q Or how it was collected?

16 A I usually don't ask all of the way back to  
17 the collection process.

18 Q Would it make a difference to you at all as  
19 to how it was collected?

20 A I -- depending on what I received, I would  
21 ask if it would be in proprietary format, which in  
22 this case I believe it was proprietary format export,

1 for this case.

2 Q And so there were no questions that you  
3 needed to ask before you were going to use this  
4 particular USB --

5 A No.

6 Q -- device?

7 A No. The case agent -- you know, his  
8 responsibility is to collect the evidence and then  
9 send it to the examiner for examination.

10 Q Okay. The 2791 was another USB storage  
11 device; is that correct?

12 A It is.

13 Q And the same questions with that. You have  
14 no idea how that was collected?

15 A Looking at it, it had -- again, I talked to  
16 the case agent. He just said that it was -- more  
17 video was collected at a later time of this incident  
18 with more cameras.

19 Q Do you have a photo of that?

20 A Of the --

21 Q I saw you just turning the page.

22 A I have the contents of each of the media,

1 which I verified, and that was good enough for me.

2 Q Because you're saying that if it's a  
3 proprietary format export, there is no change  
4 whatsoever of that -- of the contents?

5 A No, that is the -- export -- usually the  
6 export of the DVR that is allowed from that DVR  
7 process to export that video. Until I get into the  
8 actual DVR and start playing with it, can I tell  
9 whether something's been altered or changed or the  
10 compression or something reduced?

11 Q So --

12 A Routinely, I do not go back and say, Who  
13 did it, how did it, where did they get it from, and  
14 that sort of thing. I would be spending most of my  
15 time on the phone or flying out to different cases.

16 Q Would you want to have the DVR that  
17 produced the contents of this USB?

18 A In this case, it was not needed. Routine  
19 these days with as many videos that come in, we do  
20 not ask for the DVRs to come in. If they take what  
21 they did, which is the proprietary output, that's  
22 fine. It allows me to process and get what I need

1 so I know what's within each of those.

2 Q Well, I see that you have a photo there.

3 A Uh-huh.

4 Q Did you take a photo of --

5 A Take a photo?

6 Q Of the media?

7 A No, I -- well, I took a photo of that

8 camera view. Again, as part of my media process to  
9 identify what's on that media so I can go back and  
10 say this was on this, this was on that, and this was  
11 on this and make sure that I'm not missing anything.

12 Q Is that in the form of a report?

13 A No. The report that you have (indicating.)

14 Q What is that that you have in front of you?

15 A My notes.

16 Q Those are your notes?

17 A Uh-huh.

18 Q Okay. Now, both of these USB storage  
19 devices have in parenthesis examined?

20 A Yes.

21 Q What does that mean?

22 A It means that I examined them. So --



Page 157

1 Q And how did you examine them?  
2 A This report function over here (indicating)  
3 is a new setup that we use, and then once I actually  
4 review a piece of evidence, I check examined. And in  
5 this document it places that in there automatically  
6 as far as examined. So if I were to receive some  
7 evidence and I did not examine it, it would have not  
8 examined in there.

9 Q Gotcha. You have to check a box in order  
10 to --

11 A I have to check a box.

12 Q Okay. And then the third item is a 2792  
13 Hard Drive Toshiba?

14 A Yes.

15 Q Where did you get that from?

16 A The same place.

17 Q Do you know how that was -- the contents,  
18 how that was placed in that hard drive?

19 A As far as I understand, it was -- looking  
20 at it, it seemed to be a clone of several items.

21 Q And how could you tell that it was a clone  
22 of several items?

Page 158

1 A Just by the content of what I received,  
2 which was a cloned file format from computer  
3 forensics, and it gave me the operating drive and  
4 several video drives of the DVR.

5 Q Well, let's talk a little bit about that  
6 hard drive. Did that hard drive contain some of the  
7 same content that was in the USB storage devices?

8 A It did.

9 Q Okay. And do you know why?

10 A Well, I'm guessing or deriving that the  
11 hard drive was a clone of the original DVR. Again,  
12 I'm guessing on this. But the content contained on  
13 the video appears to be the proprietary player and  
14 the proprietary video that was recorded, and the two  
15 thumb drives were actually exports from that video  
16 proprietary player.

17 Q Okay. So the two thumb drives were  
18 exports. You're saying the hard drive was an actual  
19 clone that contained those?

20 A Contained the original and then several  
21 copies of the exported video.

22 Q Okay. So now you've got your three items,

Page 159

1 right?

2 A Uh-huh.

3 Q Now, what are you going to do with them?  
4 What was your goal here?

5 A Run through my process exactly as I usually  
6 did, identify what was on there, reviewed all of the  
7 content of each one of the cameras, try to find and  
8 identify any areas contained within the area of  
9 interest.

10 Q Well, how do you do that? You had no idea  
11 about this case. You had no conversations with  
12 anyone that suggested that, hey, you know, this is  
13 what we're looking for.

14 A Within the body of the electronic  
15 communication there is a request to enhance an area  
16 of interest, which would be the interaction or  
17 shooting of the victim by the -- perceived at that  
18 time by the subject.

19 Q And what area was that request?

20 A In the electronic communication, the  
21 details of it.

22 Q What's that?

Page 160

1 A The details of the electronic  
2 communication.

3 Q Explain.

4 A There is a request for a forensic  
5 examination, and within the details of the forensic  
6 examination defines what they're requesting.

7 Q And what was it?

8 A Enhancement of this video in this area of  
9 interest. Again, I didn't --

10 Q And what was the --

11 A -- bring it with me so I'd have to look.

12 Q What was the area of interest?

13 A That would be the shooting and then  
14 anything tied to the shooting.

15 Q Shooting?

16 A Uh-huh.

17 Q And area tied --

18 MR. MARTIN: Rick, I can't hear you.

19 MR. ESCOBAR: You can't? Oh, I'm sorry. I  
20 know she can.

21 BY MR. ESCOBAR:

22 Q Okay. So the shooting.



Page 161

1 A Yes, sir.

2 Q Okay. So let's talk about how you go about  
3 in this process -- and you've got a report here that  
4 gives us certainly an idea of the process that you  
5 went through, and it says -- it starts off by saying:  
6 Special Agent James Bucenell of the Tampa Office  
7 requested through an electronic communication dated  
8 September 25th, 2015, that the Forensic Audio, Video  
9 and Image Analysis Unit enhance the videos contained  
10 on the submitted media and produce enhanced images of  
11 the pertinent areas.

12 And so you're saying, Look, I really didn't  
13 know what the pertinent areas were, other than the  
14 shooting.

15 A So the pertinent areas for me would be  
16 defined, as the process goes forward, anything that I  
17 deem pertinent up and beyond a review of the case  
18 agent. That is what I see as pertinent. So on many  
19 of these cases I define the requirements of what I do  
20 and what I can enhance and what I produce.

21 Q But you didn't know the story behind the  
22 shooting, right?

Page 162

1 A Not at the time when I started this case.  
2 The case agent did give me just a short overview, and  
3 then I ran from there.

4 Q So the word pertinent areas, you're saying,  
5 Look, Rick, I determined what the pertinent areas  
6 were myself?

7 A Uh-huh. I usually do.

8 Q Okay. And that's just based upon?

9 A Twenty years of experience.

10 Q No, no. It's based upon the fact that you  
11 knew this was a shooting?

12 A Yes.

13 Q Right?

14 A Yes.

15 Q Okay. And then Special Agent Bucenell  
16 again further requested that all copies of the videos  
17 containing theater Cameras 11 and 12 be compared to  
18 ensure that there are no differences and that each  
19 video appears to be an accurate representation of the  
20 events recorded. Correct?

21 A Uh-huh.

22 Q Okay. I would imagine that all copies

Page 163

1 means just all copies that were provided to you,  
2 correct?

3 A Yeah. So, again, one of the problems that  
4 I was told with this is their were multiple copies of  
5 this within the evidence that I found or that was  
6 sent to me. I believe that there was a problem with  
7 a sheriff at some point during the processing of  
8 this, reviewing some of this media. And I was asked  
9 to see if there was any problems defined from the  
10 original taken at the scene or at least during the  
11 investigation with items that were received further  
12 on down the investigation.

13 Q What was the problem with the sheriff?

14 A I was told that he was reviewing the video,  
15 and he didn't know exactly what he was doing. That  
16 was defined or explained to me. When they found out  
17 he didn't know exactly what he was doing, they  
18 stopped the process and made him step back.

19 Q Okay. Well, let's try to see if we can  
20 explore that a little bit further.

21 A That is all the information that I know.

22 Q Okay. Well, but, I mean, when someone is

Page 164

1 giving you information that, Hey, someone was  
2 handling these videos that didn't really know what he  
3 was doing, that's kind of red flag for you. You want  
4 to make sure that, you know, certainly the integrity  
5 of those videos, you know, are looked at, correct?

6 A Yes. And as I explained to both the case  
7 agent and the prosecution and several other  
8 examiners, the original evidence collected as far as  
9 I have been told, was collected at the scene and not  
10 too far after the fact of the incident. And then for  
11 any collection methods from me, both as an examiner  
12 and an investigator, the first collection method  
13 would be the evidence copy, and that would derive  
14 anything that comes from that.

15 Q Well, so you're saying that the prosecutor  
16 and the agent told you that the evidence was  
17 collected there at the scene. So you just don't know  
18 how?

19 A As it would be. I mean, as far as who  
20 touched it, who did it, no, I don't have that chain  
21 of custody. I wouldn't have that chain of custody.

22 Q Well, would you be surprised if, in fact,

Page 165

1 the evidence from these particular hard drives were  
2 initially at least attempted to be collected remotely  
3 by an IT office in another state?

4 A That's standard operating procedure in a  
5 lot of companies these days.

6 Q Okay. And were you aware that -- then hard  
7 drives were removed from the DVRs by a company, not  
8 law enforcement, a company that had been contracted  
9 by the Cobb Theatres and removed those hard drives,  
10 and then carried them over to Cobb Theatre

11 headquarters, someone carried them over to a lawyer's  
12 office, and then subsequently days and days later a  
13 detective from Pasco County Sheriff's Office  
14 allegedly picked up some or all of those hard drives?

15 A I am aware of that conversation.

16 Q Okay. And is that the conversation of  
17 concern with this detective and what he was trying to  
18 do?

19 A I think the concern was that he was working  
20 off of the original drives, copying those videos  
21 over. That was the concern, to see if any evidence  
22 was damaged, if the videos themselves had changed

Page 166

1 from that point back to when the thumb drives were  
2 recorded.

3 Q And what can happen when a detective is  
4 copying?

5 A I'm not going into what could happen,  
6 because there's a thousand different things that  
7 could happen. I don't know what he did.

8 Q Compression?

9 A I wasn't there. Copying usually does not  
10 compress anything.

11 Q So what were you concerned with to look  
12 for? I mean, you want to do an examination to try to  
13 relieve that issue --

14 A Right.

15 Q -- so I would imagine you're saying, Okay,  
16 well, let me see what kind of things can happen here,  
17 and I'm going to look for those things?

18 A No, what I would look at is what is there  
19 now compared to what was recorded and exported out at  
20 a previous time and see if there's any differences.  
21 Once I started diving into the hard drives, at least  
22 the hard drive that I received, I found that

Page 167

1 everything operationally worked just the way it  
2 should. I found that the proprietary software, I  
3 could actually revitalize, I could start up, I could  
4 connect and rebuild the entire database.

5 Q Rebuild?

6 A Uh-huh.

7 Q Why are we rebuilding anything?

8 A So when you move this software, move  
9 everything from one place to another, from its  
10 original area, it has to relink the database back  
11 together so it knows where everything is. And  
12 there's a repair function in this GeoVision software  
13 that actually rebuilds the software, rebuilds the  
14 database, to allow that -- to know where everything  
15 is so it can play smoothly.

16 Q What did you know about this GeoVision  
17 software prior to entertaining that exercise?

18 A So the GeoVision software was used in the  
19 Boston Marathon at the second explosion site in that  
20 club that I've spent over two years working with.

21 Q Is that the first time that you've worked  
22 with that GeoVision software?

Page 168

1 A In depth? I've worked with the EXE files  
2 exported and some of the AVI files that is exported,  
3 but I became very in tune with the software during  
4 that two-year period.

5 Q Okay. And so you're saying that, Hey,  
6 listen, we had to do a repair function?

7 A Uh-huh. It's a normal --

8 Q That's what you called it.

9 A It's a normal function within the DVR. You  
10 can go into the manual and see there is an actual  
11 repair EXE, and it just basically redefines the  
12 database.

13 Q Okay. And so you had to do that in  
14 reference to both the USB drives as well as the hard  
15 drive?

16 A No, the USB drives were original EXE files  
17 exported out -- as far as I can tell -- from the  
18 proprietary format, gave the videos at that length  
19 that was programmed during the export, and there was  
20 no problem with them at all.

21 Q Now, when we're talking about giving the  
22 parameters of the export, what does that mean?

1 A So the export of the video, you can define  
2 the export out as an AVI file, as an EXE file. You  
3 can define whether it's realtime, whether it's active  
4 frames. You can define it as whether it's an  
5 overlay. It has a multitude of camera outputs.  
6 There's a multitude of individual camera play  
7 functions on it. There's like 10 or 12 different  
8 chapters that you can actually --

9 Q So you can limit what you're exporting?

10 A Uh-huh, yeah. So you don't have to export  
11 the entire video, you can export certain periods.

12 Q Okay. And so the two USB drives were a  
13 limited portion of the contents of the hard drive?

14 A Yes.

15 Q Do you know what limited portion?

16 A The one thumb drive contained five video  
17 files.

18 Q Okay.

19 A And then the second one contained four  
20 folders containing 130 proprietary video files, which  
21 were EXE files, which I reviewed every one of them to  
22 see if there was any area of interest on there. And

1 then the latter, which would be the hard drive,  
2 contained some, not all of the video or video  
3 cameras, the desktop, and basically the operating  
4 hard drive of the DVR, and then allowed me to  
5 basically redefine that.

6 Q Why only some?

7 A That's what I received.

8 Q Well, I realize, but if you -- I would  
9 imagine if you have a hard drive, you want to dump it  
10 all, right? Into the hard drive? Why be selective?

11 A Don't know how many hard drives there were,  
12 don't know how many DVRs there were. And I know that  
13 in a -- usually a theater you're going to have a lot  
14 of cameras.

15 Q Who made that decision as to what was going  
16 to be dumped into the hard drive and what was not  
17 going to be dumped into the hard drive?

18 A I don't know. It was not my decision. I  
19 received and processed what I received.

20 Q Okay. So let's talk about what was in each  
21 of the -- let's talk about what was in each of the  
22 USBs first.

1 A Yes, sir.

2 Q And 2790, what was in that USB in  
3 particular?

4 A Five EXE files.

5 Q And give me all of the identifying features  
6 of that.

7 A Okay. One, customer service .EXE contained  
8 the area of interest and some subject movements. Two  
9 was entrance 10 .EXE, that contained some area of  
10 interest, subject movements.

11 Q Some area of interest, which means that it  
12 only contained portions of that?

13 A He walked in and out of the scene. So...

14 Q Yeah. Okay.

15 A Let's see here. Three, right side customer  
16 service .EXE, area of interest. Basically the  
17 subject walked in, into the theater, and it looks  
18 like he got some snacks. Theater -- four, it says  
19 Theater 10, quotes, 1 .EXE, this was the left -- if  
20 you're looking from screen out, it's the right side.  
21 If you're looking from the entrance in, it's the left  
22 side. And then number five was Theater 10 left,

1 which is right side or left side, depending on how  
2 you see it. Both of those contained the area of  
3 interest, the altercation or -- between the two  
4 individuals. That's it.

5 Q Okay.

6 A One, two, three, four, five.

7 Q Okay. And then 2791, what did that  
8 contain?

9 A That contained 130 proprietary video files.  
10 Do you want me to go through each one?

11 Q Unh-unh.

12 A I went through, started each one of the EXE  
13 files, took a snapshot of that frame and then defined  
14 which areas of interest that individual was in.

15 Through the 130 different camera files, I believe --  
16 Q How did you know the individual of  
17 interest?

18 A I watched each one.

19 Q Well, but, I mean -- okay. Who was the  
20 individual of interest?

21 A That would be defined within me looking at  
22 the video of the two theaters, seeing the

1 altercation, back-stepping all the way to where that  
2 individual bought his tickets and came into the  
3 theater, all the way through to when the police  
4 escorted him out.

5 Q So you were able to determine the  
6 individual of interest by looking at the activity  
7 that took place within the darkened theater?

8 A Uh-huh.

9 Q And then you went back and tried to  
10 identify those individuals on your own --

11 A Uh-huh.

12 Q -- that were in the lighted areas of the  
13 concession and entrance and what have you?

14 A Yes.

15 Q That's what you did? That's how you did  
16 it?

17 A That's how I do my work, yes.

18 Q And you did that through all of the photos  
19 you're saying -- images. If I call them photos,  
20 correct me. Okay?

21 A They're videos.

22 Q I have a very bad time of doing that

1 sometimes.

2 A Yeah, so each one of these were just a  
3 screen shot so I can see what that visual -- again, I  
4 work in video and imagery, so it's a visual aspect  
5 for myself. So I can go through and quickly  
6 determine where this camera view is, so I don't have  
7 to go back over and over and over again and view  
8 these things over and over again.

9 Q Okay. So those are the two USB storage  
10 drives?

11 A Uh-huh.

12 Q Was there any timestamps in those USBs?

13 A Yes.

14 Q And it's my understanding that there are  
15 different types of timestamps, correct?

16 A Yes, there are.

17 Q And what are the different types of  
18 timestamps?

19 A This particular one is an embedded  
20 timestamp overlaid into the video.

21 Q Okay. Embedded?

22 A Uh-huh.

1 Q And what does that mean?

2 A That means that it is part of the video.  
3 It's defined within the scope of the video.

4 Q And how do you tell that it's embedded and  
5 is part of the video?

6 A It's usually a visual function. You can't  
7 turn it on or off. There's no ability to turn it on  
8 or off. It's just part of the video file itself.

9 Q No ability to turn it off and on?

10 A Uh-huh.

11 Q And we're talking about 2790 right now,  
12 right?

13 A Yes.

14 Q Okay. Was there any other time mechanism  
15 on that USB other than that embedded timestamp?

16 A So there is a -- in the metadata there is  
17 listed a timestamp that is in there that can be  
18 derived from certain aspects of software that can  
19 read that format.

20 Q And how does that happen? Is that an  
21 add-on from its original?

22 A It's something that a proprietary video

1 file would add into the metadata. It's basically an  
2 overlay track, and depending on what visual software  
3 you use to visualize that overview track, you can  
4 turn it on or off.

5 Q So you didn't see anything on that  
6 particular USB storage device that had been burnt  
7 into -- the timestamp had been burned in?

8 A The timestamp that I saw -- the initial one  
9 was burned in on the bottom left-hand corner.

10 Q It was?

11 A Uh-huh.

12 Q What's the burned-in process?

13 A That's done at recording.

14 Q That's what?

15 A It's done at recording.

16 Q At recording? When it's recorded?

17 A Uh-huh.

18 Q And it's on the left-hand, lower left-hand?

19 A Uh-huh.

20 Q And that was the only one that, quote, was  
21 burnt into the video? Burned into the video?

22 A On the export, yes.

Page 177

Page 179

1 Q On the export?

2 A Uh-huh.

3 Q On that one?

4 A Uh-huh. Well, I mean each one. So each  
5 one of the EXE files that I reviewed, when you play  
6 the EXE file, it has the date/time in the bottom  
7 left-hand corner.

8 Q Now, you mentioned earlier that there was  
9 an issue with -- I think it's the 30 frame per second  
10 processing; is that correct? Is there any problem  
11 with that?

12 A As far as what?

13 Q Was there 30 frames per second?

14 A No. As I stated before, the frame rate was  
15 variable.

16 Q Variable?

17 A Uh-huh. Record rate, I should say.

18 Q So did -- in viewing that particular USB  
19 drive, did it appear that things were not happening  
20 in realtime visually?

21 A So when I initially reviewed this, I could  
22 tell that it was motion-activated. I could tell that

1 not recording, how does that process work?

2 A Duplicate images?

3 Q Uh-huh.

4 A Can you go in depth on that?

5 Q Yeah. You know, here's a camera that's  
6 recording --

7 A Uh-huh.

8 Q -- and it records only on motion?

9 A It looked like -- it wasn't really motion.

10 It was a change of pixel content within there so if  
11 there was a big flash on the screen, it would start  
12 recording for a second or two and then stop.

13 Q So let's talk about that because -- is that  
14 something that you first determined, Hey, how is it  
15 that this machine records?

16 A No, it's a visual content. I mean, I've  
17 seen it -- this type of recording scheme many times.

18 Q Well, what was the recording scheme? When  
19 would it record and when would it not?

20 A It was motion recording. Most of these --

21 Q Motion?

22 A Most of these things, if there is a change

Page 178

Page 180

1 it wasn't realtime video, so 29.97 or 30 frames a  
2 second. As most of the videos that I see, it's just  
3 a normal thing that I understood immediately.

4 Q So what happens if it's not realtime?  
5 You're just adding files there in order to cover the  
6 gaps?

7 A No. I mean, depending on which player, it  
8 will play at the time that it was recorded. So if  
9 it's two frames a second or five frames a second or  
10 twelve frames a second, it can speed up and slow down  
11 at the play time. Record is -- I mean, you're going  
12 to see what's recorded. If it records two frames a  
13 second, ten frames a second or twelve frames a  
14 second, you're going to see what is recorded. I  
15 can't speak to what is not recorded.

16 Q Okay. Same with 2791?

17 A Yes, sir.

18 Q All the same answers?

19 A It appears that the entire DVR was set up  
20 that way.

21 Q Okay. The duplicate images that appear on  
22 that video in an effort to cover those gaps that it's

1 of pixel content within the visual of the video, the  
2 DVR will sense that, depending on how many pixels are  
3 changing or however which way the DVR is set up. You  
4 know, it will record a bit, and if it doesn't see any  
5 movement or change, it will stop.

6 Q Is there a way of determining, you know,  
7 when it starts recording and when it doesn't record?

8 Is there a pixel count? Is there -- what  
9 significance of a change do we need?

10 A It's all defined by the software setup.

11 Q And is there any way of examining that?

12 A If you go back to the original DVR.

13 Q If you go back to the DVR?

14 A Uh-huh.

15 Q Okay. And so many times you do that?

16 A No, I don't.

17 Q You don't. Why not?

18 A There's no reason for me. I deal with what  
19 is recorded. I can tell that it is motion recorded.  
20 I can tell what recording's going on. I can define  
21 that. For me to have the DVR and say, Yes, it's set  
22 up to do exactly what I know it is, there's no reason

Page 181

1 for it.

2 Q Well, but you're saying that by going to  
3 the DVR you're going to know the parameters?

4 A As far as what is defined, you can, yes.

5 Q And to you that's not important?

6 A It doesn't change the content of the video  
7 for myself and what process I'm doing.

8 Q And so how is it then if a camera and DVR  
9 are not recording, how is it that it places the  
10 duplicate images in sequence until it starts  
11 recording again?

12 A So in this particular proprietary format,  
13 you have two different capabilities of recording.  
14 Actually, one different capability of recording --  
15 one capability of recording and then several ways to  
16 export the video. So you can export the video in  
17 realtime, or you can export the video in recorded  
18 frames.

19 The export the video in recorded frames  
20 allows you to export just that video that's been  
21 recorded. So it will go forward and export any  
22 frames that have been recorded, that timestamp will

Page 182

1 continue on. And for those portions that it's not  
2 recording, it will give you the last frame, and it  
3 will continue to go on until it starts going on. So  
4 it's basically a freeze frame.

5 If you export the video in realtime, which  
6 is 29 or 30 frames a second, 29.97, those portions  
7 that have not recorded will give you a blue screen  
8 and the timestamp will continue. That's the two ways  
9 to do it.

10 Q Okay.

11 A From the proprietary format. And the only  
12 way you're going to get that is actually working from  
13 the proprietary format.

14 Q Okay. And so how does that format  
15 accomplish that?

16 A It records a standard time all the way  
17 through, and then it basically blocks in what video  
18 is recorded into those schemes and into that area.

19 Q And is that through a software process?

20 A Uh-huh.

21 Q Okay. And do you know what software that  
22 is?

Page 183

1 A GeoVision.

2 Q GeoVision?

3 A Uh-huh.

4 Q And have you done any work whatsoever to  
5 determine the reliability of that?

6 A No. I work on the final output in export.  
7 There's different ways that you can -- I mean, I've  
8 read the DVR manual several times. I worked with it  
9 for two years in the Boston case. I mean, it's all  
10 defined on what it records.

11 Q Okay. The 2792 hard drive.

12 A Okay.

13 Q Tell me what that contained.

14 A Let me get --

15 Q All of the above?

16 A Okay. So that hard drive was a little bit  
17 different. It contained two FTK image files.

18 Q Why would that be different?

19 A So the two thumb drives were exact -- or  
20 were proprietary video exports, so they contained the  
21 EXE files from the proprietary video. The DVR itself  
22 contained the operating drive of the DVR and some of

Page 184

1 the storage video or the cameras that were recorded.  
2 So I could go in and I could see what was on the  
3 desktop. I could see what was in the files. I could  
4 see what was in the operating drive, the windows  
5 drive, that sort of thing. And then those videos  
6 that were contained -- or those cameras that were  
7 contained in the video files.

8 Q What cameras were those?

9 A Let's see here. I have the different files  
10 over here. I have them all listed out. I mean, I  
11 can go through them one by one if you'd like.

12 Q How many files are we talking about?

13 A Well, you've got one, two, three, four,  
14 five, six EXE files. And then their full -- hold on.  
15 Sixteen cameras were located on the 2792, and then  
16 Camera 11 and Camera 12 were embedded in those. So  
17 16 camera views.

18 Q Sixteen cameras views?

19 A Uh-huh. Raw camera views.

20 Q Okay. In your report you have summary of  
21 results and you have -- you start off by saying  
22 HQQ002790, 8 gigabyte USB drive, and HQQ002791,

Page 185

1 32 gigabyte USB drive, and the HQQ002792, Toshiba  
2 3 terabyte USB external hard drive, were reviewed to  
3 locate areas of interest?

4 A Yes.

5 Q And so you've indicated to me, I think in a  
6 general form, that your areas of interest were the --  
7 what you purported to be a shooting incident inside  
8 of the theater?

9 A Camera 11 and Camera 12.

10 Q So shooting incident with Camera 11 and  
11 Camera 12. What else?

12 A And any camera that I could find containing  
13 the subject and his movements.

14 Q Subject being?

15 A That would be -- what's his name?

16 Mr. Reeves.

17 Q Okay.

18 A Or at least that individual at that time  
19 that was involved in that. So I didn't know him  
20 personally. I didn't ID him. I didn't do a  
21 comparison. The individual that I saw involved with  
22 those two, backtracked him all the way until he came

Page 186

1 into the theater.

2 Q And so did you backtrack the alleged  
3 victim?

4 A I did not.

5 Q Why not?

6 A Because I could never see who -- exactly  
7 who he was or define anything that defined him.

8 Q What does that mean?

9 A I had no discernable information to be able  
10 to backtrack him.

11 Q Meaning, that as you looked at Camera 11  
12 and Camera 12, there was no identifying features of  
13 that --

14 A Correct.

15 Q -- person?

16 A Correct.

17 Q And so you're saying, Hey, look, Rick, I  
18 couldn't go to any other camera or any other area in  
19 order to try to identify him?

20 A Correct.

21 Q Okay. But you're saying I could for  
22 Mr. Reeves?

Page 187

1 A Yes.

2 Q Okay. What identifying features were you  
3 able to gather of Mr. Reeves from Camera 11 and  
4 Camera 12 within the theater in the shooting  
5 incident?

6 A As far as?

7 Q Any identifying features. You said that's  
8 what you did so --

9 A So I defined him by his movements. So when  
10 he left the theater, I picked up the camera as he  
11 left the theater, and then moved him -- and found out  
12 exactly what he looked like and can move him around  
13 within the theater.

14 Q Okay.

15 A And I moved it back further and further and  
16 further, all the way until he picked up his tickets.

17 Q So you're saying what you did was you saw  
18 on the film what you believe to be Mr. Reeves leaving  
19 the theater?

20 A The individual that was involved, I  
21 basically backtracked him up, yes.

22 Q And when you saw him in the concession area

Page 188

1 and what have you, you identified what his physical  
2 appearance was?

3 A Yes.

4 Q What his clothing were?

5 A Yes.

6 Q And then you were able to track that same  
7 individual as he was purchasing the tickets outside?

8 A Purchasing his tickets, approaching to the  
9 stand, buying popcorn and stuff, and then finally  
10 going into the theater, coming out of the theater,  
11 talking to the customer service, going back into the  
12 theater, and then from then on.

13 Q Okay. Were there any other locations of  
14 interest that you identified other than what you've  
15 just told me?

16 A Coming into the theater, looking over --  
17 coming into the theater, buying tickets, walking up  
18 past the entrance area where you get your ticket, go  
19 around and get whatever popcorn or snacks he had.  
20 There was a camera over the top as him and his wife  
21 -- or the female that he had walked past the door of  
22 the theater, and then Camera 11 and Camera 12



Page 189

1 interior of the theater. And then customer service  
2 as he approached up there.

3 Q That's it?

4 A Yeah.

5 Q Okay. Now, you said 48 proprietary video  
6 files containing the areas of interest were  
7 electronically processed, of which 14 enhanced videos  
8 and 8,897 enhanced images and 7 image content sheets  
9 were produced?

10 A Uh-huh.

11 Q Okay. So let's talk about, if we can --  
12 let's talk about that process. Tell me what you did  
13 to electronically process that.

14 A That would be exactly what we stated before  
15 as far as going in, identifying the areas of  
16 interest, breaking them out into a usable format for  
17 myself, getting them into a forensic station, doing  
18 my enhancements, resizing and then exporting.

19 Q Okay. Let's take that --

20 A That's on a big basis.

21 Q Yeah. Let's take that -- when you're  
22 saying -- because you've got two USB drives and

Page 191

1 received.

2 Q Okay. So you exported in AVI function,  
3 right?

4 A Yes.

5 Q And what other function?

6 A The EXE function. Again, these are just  
7 model tests that I'm doing to understand what I'm  
8 receiving.

9 Q And you're doing that from the hard drive?

10 A Uh-huh.

11 Q Strictly from the hard drive?

12 A Well, so I copied that hard drive back to  
13 my forensic station, so I had to expand it, because  
14 they were FTK clones of whatever it was derived from,  
15 so I had to bring it into my forensic station.

16 Q What's a forensic station?

17 A My forensic examination station.

18 Q Well, what --

19 A A computer that has my forensic software on  
20 there.

21 Q I guess a forensic station sounds a bit  
22 more important. It was a computer?

Page 190

1 you've got a hard drive?

2 A Uh-huh.

3 Q What are you doing with those three items  
4 in electronically processing it.

5 A Okay. So I initially started with defining  
6 what I had, looking on the USB drive, seeing what  
7 videos they were, seeing if there were any EXE  
8 proprietary files, reviewed all of those files. And  
9 then I --

10 Q Reviewed for what?

11 A Content.

12 Q Okay.

13 A To see if they had anything that I needed.  
14 Moved over to the hard drive, defined what it was.  
15 Found out that it was the proprietary player in a  
16 whole. I was able to rebuild that system, linked  
17 everything back together, got the hard drive up and  
18 operational, got the proprietary up and operational,  
19 got all of the cameras that I received linked up with  
20 the proprietary and was able to export both in AVI  
21 function, proprietary function, and tested those  
22 visually frame by frame with the ones that I had

Page 192

1 A A very large computer, yes.

2 Q Okay. Brand name and specs?

3 A It's -- I would have to get the specs. I  
4 don't know them off the top of my head. I've had it  
5 for four years now.

6 Q Okay. So you are exporting --

7 A Uh-huh.

8 Q -- that hard drive?

9 A Uh-huh.

10 Q Onto your computer?

11 A Yes.

12 Q How are you doing that?

13 A Through the proprietary software.

14 Q And so how does that happen?

15 A As I stated before, there's several  
16 functions that you can do this, both realtime -- and  
17 it gives you those options within there to whether  
18 you want to export it out via AVI or through  
19 proprietary -- the EXE file.

20 Q Okay. Which one did you choose or both?

21 A Both.

22 Q You chose both of them?



Page 193

1 A I got multiple tests on both of them,  
2 reviewed all the video, reviewed the different  
3 sections, went back to the original AVIs that were in  
4 the backdrop behind the proprietary software, defined  
5 what they were at, defined what they were doing,  
6 became familiar with the videos within the  
7 proprietary player, the export of the proprietary  
8 player, the date/time both embedded and within the  
9 metadata, and basically put these areas of interest  
10 together to define a timeline.

11 Q Okay. And so are you using strictly the  
12 hard drive now in order to work the process, or are  
13 you using the hard drive as well as the separate USB?

14 A So I am doing both.

15 Q And so how are you doing both?

16 A So I am making sure that the EXE files that  
17 I have and the video files that I have received on  
18 the hard drive are identical, are the same.

19 Q Okay.

20 A And once I can visually see that  
21 everything's the same frame by frame, it doesn't  
22 really matter whether I use each one. So Camera 11

Page 194

1 and Camera 12 I initially processed from the USB  
2 drive, and then later on I defined my expansions of  
3 the realtime from the hard drive, because that  
4 allowed me to get into the proprietary and the AVI  
5 files from the desktop.

6 Q So initially you were using the two USB --

7 A Yes.

8 Q -- drives?

9 A Yes.

10 Q And then you're saying that at some point  
11 in time later on is when you started using the  
12 contents of the hard drive?

13 A Yes.

14 Q And the reason that you were using the  
15 contents of the hard drive later on -- in layman's  
16 terms --

17 A Uh-huh.

18 Q -- is that you needed to expand what was  
19 contained within the images? Meaning further  
20 recordings?

21 A That and -- yes. That and I found that the  
22 authentication process -- throughout the

Page 195

1 authentication process of what's on the thumb drive  
2 and the EXE files and the hard drive, what I was  
3 viewing at that point was identical.

4 Q Tell me what you did to authenticate.

5 A Frame-by-frame analysis.

6 Q But is that frame-by-frame analysis with  
7 your naked eye?

8 A Pretty much.

9 Q So that's the way you authenticate?

10 A On this particular one, yes.

11 Q Is there other ways of authenticating?

12 A You can do an overlay, so I did a negative  
13 overlay on several different areas within the video,  
14 taking images, the exact frame from the hard drive,  
15 overlaying it over the EXE file. I capture -- a  
16 frame capture of the EXE file and do a negative  
17 aspect on it. Basically subtracting it and seeing if  
18 there's any differences, which there were none.

19 Q Now, did you know that there was some hard  
20 drives that were currently at the Sheriff's Office?

21 A At some point, yes, they did.

22 Q Why didn't you use those?

Page 196

1 A I didn't receive any. I received and  
2 processed what I got.

3 Q Well, normally, don't you want to try to  
4 get the original hard drives to work with?

5 A No. To me a clone copy is just fine. The  
6 EXE file, the original export's just fine. Copies of  
7 the original export are just fine. Again, we're in a  
8 digital age, so we don't have to always go back to  
9 original, like we would with taping.

10 Q So you didn't even want to see the  
11 originals. The clone that you had was just fine for  
12 you?

13 A Yeah, contained what I wanted.

14 Q Okay. So visual authentication and the  
15 overlay? That's it?

16 A Yeah. Yeah, I reviewed the metadata, and  
17 the metadata was exactly the way it should have been.

18 Q How is it should have been?

19 A As far as the EXE export was defined by  
20 that proprietary software. I exported out the same  
21 amount from the proprietary software. Everything  
22 lined up. There was no differences. There was no --

Page 197

1 there was no differences, the same video.  
2 Q Now, you say there was a standard operating  
3 procedure for authentication with your group?  
4 A Uh-huh.  
5 Q What's the SOP?  
6 A That is basically it. Looking for  
7 differences. We're looking for technical review.  
8 Q Tell me what the SOP says.  
9 A I don't have it memorized. I'd have to go  
10 back and review it. But they're just standard  
11 qualifying to ensure that we use the proper software,  
12 techniques, capabilities, standard review process,  
13 have a technical review, have an administrative  
14 review to make sure it's identified.  
15 Q Have an administrator review?  
16 A Uh-huh. All of my work is administratively  
17 checked. And when I make an opinionated testimony,  
18 someone goes through and does a technical review of  
19 everything that I've done.  
20 Q So who did that for this?  
21 A I'm sorry, a lot of pages. Hard drive,  
22 Christopher Iber, on April 25th, 2016.

Page 198

1 Q Okay. So now you've done your  
2 authentication. Nothing else you did for  
3 authentication? That was it?  
4 A Uh-huh.  
5 Q And that, you believe, is the proper  
6 procedure for authenticating?  
7 A For that particular device, yes.  
8 Q And there are no other SOPs that you're  
9 aware of?  
10 A Correct.  
11 Q And there's certainly no other procedures  
12 that are best practices out in the professional  
13 community?  
14 A Not ones that I've defined in. I contained  
15 my SOPs within the FBI.  
16 Q Okay.  
17 A I don't follow any other SOPs.  
18 Q Okay. And so we'll get into the  
19 nitty-gritty, you know, on that process in just a  
20 second. But you say that Cameras 11 and 12 video  
21 files, contained on the submitted media, were  
22 inner-compared for consistency. What does

Page 199

1 inner-compared mean?  
2 A Just what I just said as far as --  
3 Q Visual?  
4 A Visual, overlay, testing between different  
5 frames, looking at the date/time, ensuring that there  
6 is no inconsistencies.  
7 Q Okay. Now, did you document each file that  
8 you inner-compared for consistency?  
9 A Each frame? No. I looked at the one file  
10 to the other file. So looking at frame by frame.  
11 Q But you didn't document which ones --  
12 A The process, but I didn't say this one to  
13 this one and do the overlay, and I didn't record  
14 that, no.  
15 Q Why not?  
16 A Because I did it actively.  
17 Q Well, but if you're doing it, it doesn't  
18 take a whole lot to record it, right?  
19 A Actually, it does, but it can be -- the  
20 process can be redefined, can be reaccomplished.  
21 Once it's defined that there is no difference, there  
22 is no difference. I'd be showing a black box,

Page 200

1 essentially.  
2 Q Is there a reason why you just didn't work  
3 off the actual hard drive that had the proprietary  
4 information?  
5 A Why I didn't do that?  
6 Q (Nods head.)  
7 A I essentially covered everything that I  
8 possibly could within the media that I received. I  
9 was asked to compare the two, work on those  
10 proprietaries as well as I could. There's no  
11 specific reason.  
12 Q Well, could you have worked out on the  
13 external hard drive?  
14 A I could have, and some of the work is  
15 specifically written just on the proprietary hard  
16 drive.  
17 Q Wouldn't that be the better practice?  
18 A It's either one. Both of them are defined  
19 as exactly the same. It doesn't matter.  
20 Q Okay. So details of your examination --  
21 and this is where I guess we get into your details.  
22 On 2790, you found to have one forensic image of five

Page 201

1 proprietary video files, each containing areas of  
2 interest?

3 A Uh-huh.

4 Q I think you've talked about that.

5 A (Witness nods head.)

6 Q And 2791 was reviewed and found -- also  
7 defined one forensic image of 130 proprietary video  
8 files, of which six video files contained areas of  
9 interest?

10 A Uh-huh.

11 Q But on neither of those did you identify  
12 what those areas of interest were specifically.

13 A In the report, no.

14 Q Right?

15 A Correct.

16 Q Where did you define them outside of the  
17 report?

18 A In my notes.

19 Q And those are the pictures and the notes  
20 that you have there?

21 A Yes.

22 Q And so what were the areas of interest on

Page 203

1 Q Who mislabeled it?

2 A I'm not sure. Whoever collected it,  
3 theater 10. Oh, theater 10, it could be theater 10  
4 itself. Theater 10, one, so it's theater 10. My  
5 fault. It was -- I'm thinking Camera 10.

6 And then file number five would be the left  
7 side, the opposite side of that.

8 Q Well, in theater 10, you're saying was  
9 identified. There are two cameras in theater 10,  
10 right?

11 A Uh-huh.

12 Q And those are Camera 11 and Camera 12?

13 A Yes. They didn't define that as 11 and 12  
14 in here.

15 Q And why not?

16 A I don't know. I didn't label it.

17 Q Who labeled it?

18 A I don't know. Whoever collected it.

19 Q Okay. What other areas of interest on that  
20 particular 2790?

21 A That's five files.

22 Q Okay. 2791?

Page 202

1 -- let's take, first of all, 2790.

2 A 2790, that would be file one.

3 Q Uh-huh.

4 A That would be file two.

5 Q What was on file one of interest?

6 A That would be customer service. That would  
7 be the individual walking to and from.

8 Q Okay.

9 A File two?

10 Q Yeah.

11 A That's the entrance to the theater, walking  
12 in and out.

13 Q Okay.

14 A File three --

15 Q Yeah.

16 A -- would be where they take the tickets.  
17 So he walks in and walks towards the concession  
18 stand.

19 Q Okay.

20 A File four, that's theater 10 that they  
21 mislabeled. That would be the -- if you're looking  
22 towards the screen, the left side.

Page 204

1 A File 12?

2 Q Uh-huh.

3 A That looks like it's the left side. So if  
4 you're looking at the screen --

5 Q If you're looking at the screen?

6 A It's the left side.

7 Q Left side?

8 A Uh-huh.

9 Q Does it identify the camera?

10 A No. It says -- it just gives the file --  
11 file content EXE. So 20140113130012.EXE.

12 Q Gotcha.

13 A Right side, so file 20140113133419; file  
14 2000 -- that would be a 30-second file  
15 20140113133615.EXE.

16 Q Uh-huh.

17 A And that's, again, the left side.

18 Q All right.

19 A File 20140113123020, and that's the  
20 ticket counter.

21 MR. MARTIN: Tony, talk up a little bit so  
22 our tape recorders will pick things up. Would you

Page 205

1 please?

2 A File 20140113123038.EXE, that's another  
3 ticket counter. There's two ticket counters that  
4 were recorded.

5 Q Outside and inside?

6 A Both outside. So the cameras are actually  
7 outside -- or inside, but he walks up to the ticket  
8 counter.

9 File 20140113130456, and that was just as  
10 they're coming through I guess after getting their  
11 concessions. You see two people walk in. That's it.

12 Q Those are your areas of interest?

13 A Yep, that were recorded on that portion.

14 Q Okay. Any other areas of interest  
15 recorded?

16 A Not that I can see written.

17 Q Okay.

18 A Let me make sure.

19 Q We're going to be taking a lunch pretty  
20 soon. Okay. So now you've identified your areas of  
21 interest, tell me what you do next.

22 A Hold on one second. So there's a save

Page 207

1 Q Okay. So now what do you do?

2 A So in that I -- so I found that there was a  
3 time/date overlay in the subtitles structured within  
4 the video files. I used a program called SiraView to  
5 convert those AVI files to embed the -- that  
6 date/time video file or date/time time file into the  
7 video; exported it out into an uncompressed format,  
8 and then brought it into my video -- or Adobe  
9 Premiere.

10 Q Why are you doing all of that?

11 A To work in the best product capable.

12 Q Well, but why are you doing that with the  
13 timestamp?

14 A To define the timestamp so I know which is  
15 where and be allowed to run the videos concurrently.

16 Q At any point in time did anybody indicate  
17 to you that there was a problem with the timestamp?

18 A No.

19 Q No?

20 A (Witness shakes head.)

21 Q Never indicated any problems with  
22 timestamps at all?

Page 206

1 function on the EXE file, which you can actually  
2 export the AVI file from that proprietary. It is  
3 saved in the temp file format of your computer, so  
4 when you export that video, you can export that out.  
5 So with those videos I exported each one of those out  
6 to get it into the open file format, brought it  
7 into --

8 Q Why? Why are you doing that?

9 A To get it into my forensic software. I  
10 can't import an EXE file into my forensic software,  
11 because it is a proprietary file. So --

12 Q And you can't work within the proprietary  
13 file to do any enhancing?

14 A I wouldn't do it anyways.

15 Q Why not?

16 A Because I don't control that aspect. So I  
17 know the controls and our software is certified. The  
18 forensic software that we use is certified for use.  
19 Any software that would enhance proprietary software  
20 or proprietary enhancement within that software is  
21 not certified by the FBI, and I'm not allowed to use  
22 it.

Page 208

1 A No.

2 Q Okay.

3 A Why?

4 Q So now what do you do?

5 A Take this into my Adobe Premiere and  
6 provide the enhancements.

7 Q Adobe Premiere, that's what you chose?

8 A It is.

9 Q And so how did you go about doing the  
10 enhancements?

11 A Which video enhancement would you like me  
12 to define, because there are a multitude of them.

13 Q Let's go in the order that you did them.  
14 First of all, since it's getting close to lunch, tell  
15 me what your results were, and then we'll come back  
16 and analyze what you did step by step. What were you  
17 able to enhance and what were you able to glean from  
18 that enhancement?

19 A The enhancements themselves were defined by  
20 that release of products that you received from the  
21 prosecutor. So any of that software, those software  
22 files were the exported things --

Page 209

1 Q Well, I know, but you looked at them, and  
2 you wanted to -- you wanted to tell certain things  
3 about the points of interest, right?

4 A Uh-huh.

5 Q And especially the points of interest  
6 concerning the shooting.

7 A Yes.

8 Q So were you able to form any opinions  
9 concerning your enhancements?

10 A As far as an opinion of my enhancements, I  
11 enhanced the videos as I saw fit. As far as defining  
12 where they were individually, put a timeline as far  
13 as position where he was in sync with the timeline  
14 itself, so the video tracks and the date/time listed.

15 Q Well, I realize that, but I'm more  
16 interested right now because you're telling me, Hey,  
17 look, you know, I was able to identify, you know,  
18 Mr. Reeves. How --

19 A Uh-huh. Well, at that time I don't know  
20 it's Mr. Reeves. I haven't -- the individual, you  
21 know, within that conflict, yes.

22 Q But you were not necessarily able to

Page 210

1 identify Mr. Oulson?

2 A Correct.

3 Q And so tell me by means of your  
4 enhancement, what were you able to opine concerning  
5 how this incident occurred?

6 A As stated in my report, I have no opinion  
7 as far as what alluded between those two. My  
8 definition of this enhancement was very simple. I  
9 basically tracked the movements of the subject from  
10 when he got his tickets, all the way through to his  
11 seating, going back out, coming back in, up until the  
12 incident of the shooting. I resized it, gave it  
13 multiple views as far as where that individual was,  
14 defined portions within that camera of specific  
15 happenings within that video recording, and then  
16 their actions. And that is what I've done.

17 Q And what were the interactions and actions  
18 within that video?

19 A You can see that as well as I can. So as  
20 far as defining what happened, I'm not prepared to  
21 state that.

22 Q Because you have no opinion?

Page 211

1 A I have no opinion as far as what is going  
2 on between those two.

3 MR. ESCOBAR: Okay. Let's break for lunch,  
4 and then we'll go back frame by frame, and we can  
5 start talking about the frames, which I think are  
6 going to be important in this whole process, and I  
7 think we've talked about the mechanics of your  
8 enhancement, and we may talk little bit more about  
9 that, but now it's really going to be about taking a  
10 look at the final product. Okay?

11 THE WITNESS: Yes, sir.

12 (Whereupon, the deposition recessed at  
13 12:00 p.m. and resumed at 12:35 p.m.)

14 BY MR. ESCOBAR:

15 Q Just a couple of last minute questions here  
16 from what we covered before. I want you to make sure  
17 that I understand visual content and your analysis,  
18 video overlays, review of the embedded subtitle,  
19 overlay date and time groups. Tell me about each one  
20 of them.

21 Visual content first. Basically visual?

22 A What you see. What you see --

Page 212

1 Q What you see is what you get?

2 A -- is what you get. Yeah.

3 Q Visual overlays, what did you do  
4 specifically?

5 A Visual overlays is where you take the image  
6 -- and I'm thinking you're asking about authenticity?

7 Q Uh-huh.

8 A So from -- and I'm looking at the  
9 identification of one video to another, so same  
10 content but visually I can see. I go to the exact  
11 same frame of each throughout several of them.  
12 Within Photoshop you can take those two overlays, put  
13 them into a single backdrop basically over each  
14 other, do a -- I think it's a subtraction, and it  
15 will show you any differences. And if there is no  
16 differences, it will be solid black.

17 Q Okay. Review of embedded subtitles, did  
18 you do any of that?

19 A Just reviewing as I go through with the  
20 subtitles that are in there, making sure everything's  
21 lined up from one to the other.

22 Q And you did that for all three items? Hard

Page 213

1 Drive to USBs?  
2 A Yeah. So exported out from the  
3 proprietary -- now, within the proprietary -- or  
4 within the hard drive there were proprietaries  
5 identical to the other exports in several different  
6 areas.  
7 Q Now, on the overlaid timestamps, was there  
8 a date as well?  
9 A January 13th, 2014.  
10 Q It was?  
11 A Uh-huh.  
12 Q So you had date and time?  
13 A Yes. But, again, other than -- so normally  
14 dates and times are not accurate on DVRs. It's good  
15 to whoever set it originally. I used these  
16 specifically, because they're all tied to one DVR to  
17 ensure that they're all lined up. It's just a visual  
18 as far as where people go.  
19 Q Okay.  
20 A So as far as accurate time, I doubt it's  
21 accurate.  
22 Q Why?

Page 214

1 A Because it's up to the individual who  
2 programs the DVR. I don't know who that was, where  
3 it was, when it was, and rarely do I see a DVR that's  
4 accurate to the second.  
5 Q Okay. I know we covered this a little bit,  
6 but I don't want to interrupt when we're doing the  
7 video. Define to me what pixel interpolation is.  
8 Explain how it works.  
9 A Pixel interpolation?  
10 Q Uh-huh.  
11 A Interpolation is nothing more than the  
12 resizing of an image and interpolating the pixel  
13 content to extrapolate a larger image of that  
14 original.  
15 Q And have you ever heard of something called  
16 preserve detail?  
17 A Yes.  
18 Q What is preserve detail?  
19 A You preserve the detail that's within the  
20 image, so you don't want to mess that up. So you  
21 don't want to disrupt the details. So as I was  
22 stating before, as far as enhancement, I don't

Page 215

1 enhance beyond destructive enhancement. I preserve  
2 the detail.  
3 Q Is there a function within Photoshop to  
4 select preserve detail?  
5 A I guess it would be defined on which filter  
6 you're talking -- talking about. There's multiple  
7 filters in there.  
8 Q You just don't recognize that one?  
9 A Not off the top of my head. I mean, I know  
10 there's filters in there that have different  
11 functions within it. I don't recall an actual click  
12 box that says preserve detail.  
13 Q What was the resolution of this video?  
14 A Oh, it was relatively small. Let's see  
15 here. I think it was 352 by 240, but let me find the  
16 actual -- it is very small. 320 by 240. My  
17 apologies.  
18 Q Low quality?  
19 A It depends on what you're looking for. So  
20 I have produced very clear images with 320 by 240  
21 video, and I have seen relatively decent action shots  
22 with 320 by 240, as well as identifying vehicles. It

Page 216

1 all depends on what that imagery contains and what  
2 you're looking for.  
3 Q In most surveillance systems, what normally  
4 is their resolution?  
5 A It differs completely from 320 to 240, all  
6 the way up to 4K.  
7 Q What limits the resolution? The camera or  
8 the DVR or --  
9 A Both.  
10 Q Both?  
11 A Uh-huh.  
12 Q Okay. And so how does that work in  
13 conjunction?  
14 A So if your video does not -- or your camera  
15 is limited to a very small size, your DVR can  
16 upscale, but, again, you're talking interpolation.  
17 If you set your DVR to a certain function as it was  
18 with this one, 320 by 240, which I believe is the  
19 lowest function of this DVR, you can reduce the  
20 visibility or the amount of lines of resolution that  
21 are captured. Most of your cameras, CCTV cameras  
22 that are out there that are just normally defined

Page 217

1 cameras or 720 by 480 or 486, which is just standard  
2 CCTV cameras, but they go all the way down to --  
3 again, all the way up to 4K, high-definition cameras.  
4 I don't know what the camera resolution was on this.  
5 I've never identified the camera. I've never been  
6 out to the video -- or out to the theater.

7 Q Why?

8 A I wasn't asked to go, and I didn't go.

9 Q Could you have -- could you tell if you saw  
10 the actual camera what --

11 A No. I'd have to look at the output of the  
12 camera. And, again, it doesn't really matter to me,  
13 because I'm defining what the enhancement of the  
14 video that's already recorded.

15 Q What about if you had gone out and taken a  
16 look at the DVR, would that have given you any  
17 further information?

18 A Not that --

19 Q Other than the settings, of course, right?

20 A Yeah. I mean, other than what's recorded.  
21 And, again, it's normal with what my enhancements are  
22 limited to. What's recorded at the time is limited

Page 218

1 to what I'm doing.

2 Q Does compression take place when you're  
3 recording?

4 A Oh, it does. I mean, it doesn't have to,  
5 but in this sense, again, DVRs are there to capture  
6 as much video as you can, and it does compress the  
7 video, especially at this level.

8 Q So what happens when videos are compressed?

9 A You lose information.

10 Q And what type of information?

11 A Any information that is lost. Depends on  
12 the picture or the image.

13 Q Do you first lose the finer points of an  
14 image first?

15 A It's defined by the compression  
16 capabilities of that DVR. I couldn't tell you what  
17 is lost at first or second or third.

18 Q So normally what you're telling me is that  
19 the fine details are not normally the first ones to  
20 be removed in a compression setting?

21 A No, what I'm saying is I don't what is  
22 removed first. It depends on the compression scheme

Page 219

1 that is used. You could have different DVRs that  
2 would take solid black and make that one component;  
3 solid white and make that one component. You can  
4 have DVRs that are time-lapsed that are collecting as  
5 much information as they can at that recorded amount  
6 at that recorded frame. Again, it differs on every  
7 recording system.

8 Q And so if you had that DVR, you think that  
9 would not be helpful in determining that?

10 A It stands the point that it wouldn't give  
11 me no more or less information of what I have to work  
12 with on these videos. These videos are the recorded  
13 function of what happened. I have no way to derive  
14 anymore information out of those than what is already  
15 recorded.

16 Q Why are video surveillance systems  
17 compressed?

18 A To save room on the hard drive is usually  
19 what it's for so they can record as long as they can  
20 without filling up the hard drive. It goes to the  
21 state when the DVRs first came out, hard drives were  
22 very expensive. A lot of people did as small a

Page 220

1 resolution as they could to record it to record as  
2 much time as they could.

3 Q Okay. Just a couple of questions, last  
4 questions here on your report before we start taking  
5 a look at some of the video.

6 You state in your opinion -- you state in  
7 your opinion the following: Video files of Camera 11  
8 and 12 contained on HQQ002790, 8 gigabyte USB drive,  
9 and HQQ002791, 32 gigabyte USB drive, appear to be  
10 the proprietary video exports from the recorded  
11 GeoVision 1480 DVI -- DVR media contained on item  
12 HQQ002792. "Appear," what does that mean? Doesn't  
13 give me a whole lot of confidence.

14 A I cannot be 100 percent confident that that  
15 video proprietary player exactly did it, what it did;  
16 however, the video content that is on that video  
17 recording system that I have in my hands is --  
18 appears to be identical to what the other one is.

19 Q Well, how do you determine "appear"? I  
20 mean, what scientific process do you use to determine  
21 "appear"?

22 A Every aspect that I saw appeared to be the



Page 221

1 same.

2 Q What aspects did you base your opinion on  
3 "appeared"? What every single factual aspect did you  
4 base your conclusion of "appear"?

5 A As I already stated, I looked at the  
6 underlying video frame by frame throughout several  
7 series of frames in the video.

8 Q Of which you can't tell me which ones they  
9 were.

10 A No, but at any point in time I can go back  
11 and redo that.

12 Q Well, this is not a redo. I want to know  
13 what you did to give this opinion. So --

14 A And I did.

15 Q So you can't tell me which actual files you  
16 compared?

17 A No, I can tell you the files. You have  
18 Camera 11 and Camera 12. I went to the same  
19 timeframe, over laid those frames, and there was a  
20 zero difference in the content.

21 Q Is that the way the FBI renders an opinion,  
22 just "appear"?

Page 222

1 A Sometimes, yes.

2 Q Sometimes when what?

3 A Sometimes when I state "it appears," that's  
4 when I render that opinion.

5 Q Sometimes when you don't have the DVR?

6 A No. Sometimes when I made that decision  
7 between those two video files, that's what I placed.

8 Q Well, would the DVR have helped you?

9 A No, it did not.

10 Q It would not have helped you at all --

11 A No.

12 Q -- if you had the DVR to make a more  
13 definitive conclusion?

14 A No, the content appears -- what I have  
15 appears to be exactly the same as the other one.

16 Q Okay. So that's the first sentence?

17 A Uh-huh.

18 Q It says -- and I've already stated it. And  
19 then it says, All content within the videos and the  
20 date, slash, time overlays were consistent with no  
21 manipulation detected. All of the recorded videos of  
22 Camera 11 and 12 -- all of the recorded videos of

Page 223

1 Cameras 11 and 12 appear to be an accurate  
2 representation of the events recorded.

3 What does -- you bring appear again.

4 A Okay.

5 Q What's the basis -- factual basis of  
6 "appear" there?

7 A That is what I visually see within the  
8 content of the video. That appears to be the  
9 recorded content of what it is between those videos.

10 Q But it says, All recorded videos of Cameras  
11 11 and 12 appear to be an accurate representation --  
12 appear to be an accurate representation of the events  
13 recorded.

14 How could you make that statement that they  
15 appear to be an accurate representation of the events  
16 recorded if you weren't at the recorded event?

17 A Between the defined recordings is what I'm  
18 saying. The recordings on this --

19 Q So should it be reworded?

20 A No, I'm fine with this statement.

21 Q Take a look at it again and see if --

22 A I am --

Page 224

1 Q -- that's clear.

2 A I am perfectly fine with the way it is, the  
3 way it's stated.

4 Q So how could you say appear to be accurate  
5 representations of the events recorded?

6 A Because I did.

7 Q Well, I realize it, but how can you say  
8 that the event was recorded correctly?

9 A Because every visualization technique that  
10 I used on the recorded event that I received on three  
11 different devices appears to be the same. That is my  
12 statement.

13 Q You would agree that certainly there's  
14 nothing scientific about the word appear?

15 A I don't agree or disagree. That is one of  
16 the statements that we use within the comparison of  
17 those two -- or those videos.

18 MR. ESCOBAR: Okay. Dino, let's go to --  
19 and I want to go to both -- first of all, the  
20 original images and then we'll go to the enhanced  
21 images. Is your hard drive available there? And let  
22 him see ours as well so that he can look at both of



Page 225

1 them and make sure that he's -- we're looking at the  
2 same thing. The last thing I want to do is to be  
3 looking at two different objects, right?

4 MR. MICHAELS: This is the main menu, the  
5 images.

6 MR. ESCOBAR: Okay. But when you click on  
7 the images, if you could maybe put it over there,  
8 Dino, so that he can take a look at that as well and  
9 make sure that we're looking at the same images.

10 MR. MICHAELS: When you click on the  
11 images, you have the theater 11 camera, theater 12  
12 camera. And, of course, when you click on those, you  
13 have both enhanced and the --

14 THE WITNESS: Original.

15 MR. MICHAELS: And the original.

16 THE WITNESS: Uh-huh.

17 MR. MICHAELS: Okay.

18 BY MR. ESCOBAR:

19 Q The first one that I want to go to is  
20 Camera 12, and it's going to be frame 2222.

21 A Under which group? Enhanced? Original?

22 Q Actually, we're going to go to Camera 11

Page 227

1 Q Okay. Here, let's put it in the middle.  
2 Because if not, you're going to be worried about  
3 this --

4 A You guys have them prepped and --

5 Q Yeah, you're going to be worried about  
6 this, and I don't want you to worry about this. And  
7 I can move around, because I'm good.

8 Okay. So now with that particular image,  
9 did you take a look at that image?

10 A Oh, I'm sure if I exported it, then, yes, I  
11 did.

12 Q Well, because you were trying to certainly  
13 take a look at what had occurred within that theater  
14 and try to certainly define what was taking place and  
15 enhance those particular images that were important  
16 for the -- and I'm going to call it a confrontation,  
17 but you can call it whatever you want to -- is there  
18 something you would rather call it?

19 A Confrontation is fine.

20 Q Confrontation? Yeah, okay.

21 A Confrontation is fine.

22 Q You certainly were trying to focus on those

Page 226

1 first. Excuse me. Because I'm doing it backwards,  
2 and I want to -- I want to make sure that we have --  
3 we're not going backwards. We're going to go to 11.  
4 Okay? Okay. Let's go first of all to 2616.

5 A Enhanced?

6 Q No, let's go to the regular ones first.

7 A 2616?

8 Q Oh, I'm sorry. It's going to be 2616,  
9 Camera 11.

10 A It always defines it differently in the  
11 listing. 2616?

12 Q You're more than welcome to look at mine,  
13 if that makes it easier for you.

14 A I'm getting there.

15 Q Okay.

16 A It's just when Windows came back, and  
17 there's commas in these things, it messes up  
18 everything. 2616, yes?

19 Q Yes, sir. Do you want to just use ours?  
20 Because it's much easier. We pop it up, and you can  
21 just look at it.

22 A That's fine.

Page 228

1 particular images that at least had some information  
2 concerning what may have happened between the  
3 individuals in row A, which is the back, back row of  
4 the theater?

5 A Yes.

6 Q And the row right in front?

7 A Yes.

8 Q And so is this an image that you're  
9 familiar with? You can pull it, do whatever you need  
10 to do with it. You may want to bring it back a  
11 little bit, because we've lost some --

12 A Yeah.

13 Q There you go. Do you remember that one?

14 A Yeah, I remember that one.

15 Q Okay.

16 A I think I've got that one defined basically  
17 right there (indicating.)

18 Q Okay.

19 A Verified.

20 Q So tell me what you're able to see. Since  
21 you were doing a lot of viewing of these images and  
22 what appeared to you, tell me what you're able to see

Page 229

1 there in the form of objects.

2 A I see an image with individuals in it and  
3 seats.

4 Q Okay. And do you see what appears to be a  
5 brighter object --

6 A I do.

7 Q -- in that particular image?

8 A I do.

9 Q And does that brighter object appear to be  
10 within row A?

11 A Row A?

12 Q Yeah, the --

13 A You mean the row along the back?

14 Q And for purposes of this depo, row A is the  
15 last row right next to the wall.

16 A Okay.

17 Q Before you get into the CinéBistro area.  
18 Okay?

19 A Uh-huh.

20 Q And row B is the one right before it.

21 A Okay.

22 Q Okay?

Page 230

1 A So as you play the video -- and I'm not  
2 going to go tit for tat on this.

3 Q Right.

4 A Visually, if you watch the video you can  
5 see that that is defined in the back row tied with  
6 the movements of his feet.

7 Q Okay. Well, we're going to talk a little  
8 bit about that. Do you know where these cameras  
9 were?

10 A Yes.

11 Q Okay. Where were they?

12 A Up on the wall.

13 Q Where on the wall?

14 A Up on the wall. I mean, I didn't take --  
15 I've never been there so --

16 Q Well, do you know how high?

17 A No, I do not.

18 Q Do you know at what angle?

19 A No, I do not.

20 Q Is that important to you?

21 A This -- as defined here, no. I mean, I  
22 processed the video, and I processed the images.

Page 231

1 Q Well, but is the height of the video that's  
2 capturing what's taking place on this particular  
3 image that we're talking about, the height of Camera  
4 11 and the height of Camera 12 and the angle in which  
5 they are positioned, is that an important thing for  
6 you?

7 A No, as it is right now, because this is the  
8 fine video that was recorded. High how the video is  
9 and how high the camera is has no discernable limits  
10 to me to enhance this video.

11 Q Okay.

12 A It is what it is.

13 Q And you said that you have formed some  
14 opinions concerning that light that appears on the  
15 video?

16 A So on the third examination that I did, the  
17 third request, I was asked to define what that  
18 spectral highlight is.

19 Q We're not going to -- I don't want to get  
20 to the spectral highlight, because Mr. Michaels is  
21 going to be handling spectral highlights with you.  
22 I'm talking about before spectral highlights --

Page 232

1 A That's --

2 Q -- have you --

3 A As of right now before this -- during this  
4 I have no opinion to anything that's going on within  
5 this video or this imagery beyond what I have done  
6 for the third examination.

7 Q Well, had anybody told you that that  
8 particular light was a point of interest?

9 A Yes.

10 Q Okay. And how had they told you that?

11 A They told me it was a point of interest and  
12 could I define what it is.

13 Q And did they give you any parameters as to  
14 what maybe somebody else thought it was?

15 A Yes.

16 Q And what did somebody else think it was?

17 A I believe someone suggested that that might  
18 be a cell phone.

19 Q Okay. And did they tell you what kind of  
20 cell phone?

21 A No.

22 Q Okay. And so was that information that was

1 important to you in trying to determine what that  
2 light was?

3 A At this point during this process, no. I  
4 defined exactly what was there, tried to identify or  
5 search any other areas that contained that highlight  
6 and presented that in a video format to where --  
7 excuse me, within a critical viewing format to where  
8 other people who viewed this video and imagery could  
9 make a discernable decision on what that is.

10 Q Okay. Well, you've got another light here,  
11 right there --

12 A Yes.

13 Q -- in the CinéBistro area. What's that?  
14 Just for defining it for the record, same image, and  
15 we're talking about a light, it looks like, on the  
16 top edge of the backrest of the first row of the  
17 CinéBistro?

18 A Uh-huh.

19 Q And it looks like it's maybe seat number 2  
20 or 3, right?

21 A Possibility, yep.

22 Q Okay. And so why are we having that light

1 MR. MARTIN: Well, wait a minute. I'm  
2 going to object to the term light. We don't know  
3 what it is. It's a white thing.

4 BY MR. ESCOBAR:

5 Q This bright dot.

6 MR. MARTIN: That bright dot will work.

7 MR. ESCOBAR: Bright dot will work? Okay,  
8 we've got a consensus for the first time ever.  
9 Bright dot.

10 BY MR. ESCOBAR:

11 Q And we're talking about -- we're talking  
12 about the bright dot that's in the general row A of  
13 the theater seating, correct?

14 A Okay.

15 Q Okay. And so I would imagine it was  
16 important to you to determine, hey, when did you  
17 first see that bright dot? An image.

18 A Image?

19 Q Which image was the first image that you  
20 saw that bright dot, right?

21 A In that area. Again, you can go through  
22 the video the same as I can and view that imagery

1 there?

2 A Again, I have no discernable reason or  
3 opinion as to what is going on in the content. I  
4 enhanced it, per se, and you can view it as well as I  
5 can. As far as what is there beyond what I did on my  
6 third examination, I have no idea. I have no  
7 opinion. It is what it is.

8 Q And do those two lights appear to be  
9 similar visually?

10 A I have no opinion as far as what's going on  
11 as to the content of this imagery or the video, other  
12 than what I have done in the examinations. Your  
13 ability to view this imagery, view the video and  
14 discern what is going on is exactly the same thing I  
15 can do.

16 Q Okay.

17 A So I'm not going to lead you, the jury or  
18 anybody else down a pathway that I'm not prepared to  
19 attempt -- or prepared to testify to.

20 Q Okay. Well, let's talk a little bit about  
21 this. I would imagine what was important to you is  
22 when that light that we're talking about there --

1 exactly the same way that I can. The video has been  
2 processed, the entire video has been processed. You  
3 have access to proprietary that we can watch --

4 Q Okay.

5 A -- and see what it is.

6 Q Well, let's look at the image right before  
7 then, and I'll let you go ahead and manipulate. If  
8 you want -- Dino, do you have the --

9 (Whereupon, Mr. Michaels tenders document.)

10 A I'm good.

11 Q And what image have we gone to now? 2615?

12 A Okay. Yes.

13 Q And the other one was 26?

14 A 2615, uh-huh.

15 Q This one is 2615?

16 A Okay -huh.

17 Q And the one was 2616?

18 A Okay.

19 Q Am I right?

20 A (Witness nods head.)

21 Q So the image before 2616, do you see that  
22 white dot?

Page 237

1 A I do not. But, again, we're looking at a  
2 nonenhanced video, so I'd have to get in there and  
3 actually look for it, but right now I don't see it.  
4 Q So we're going to go to the enhanced video  
5 as well, because I'm not -- I don't want to give you  
6 any disadvantage whatsoever in this process.  
7 A Okay.  
8 Q And so did you realize that when you were  
9 looking at these videos that, hey, listen we've got  
10 this white dot that appears at 2616, but at 2615 that  
11 white dot wasn't there?  
12 A Okay.  
13 Q Let's go back to 2616.  
14 A Okay.  
15 Q Now, in addition to the white dot, there  
16 appears to be another white --  
17 A Hold on one second. May I look at  
18 something real quick?  
19 Q Sure.  
20 A Okay.  
21 Q Do you want to comment on anything that  
22 clarified that?

Page 238

1 A Yes. Well, again, this is -- this is video  
2 that is recorded on action, so there could be quite a  
3 few -- in fact, it's proven there are gaps between  
4 the video. So something that there is one frame will  
5 not necessarily be in the next frame, because there  
6 could be a gap in the video recording.  
7 Q Was there?  
8 A Looks like it.  
9 Q How much gap?  
10 A You'd have to look at the timeframe here.  
11 Q Okay.  
12 A And 24 -- this one was 132624.712, and this  
13 one is 25.346. Whatever that difference is.  
14 Q So fraction of a second?  
15 A A second plus, yeah. Or -- yeah. Again,  
16 I'd have to --  
17 Q Fraction of a second?  
18 A Yes.  
19 Q Not a second plus?  
20 A Well, again, you're looking at --  
21 Q Or is it?  
22 A You're looking at 24712, and then 25.3 --

Page 239

1 so those are frame numbers. So, yeah, less than a  
2 second.  
3 Q Less than a second?  
4 A Uh-huh.  
5 Q Okay.  
6 A And there could be gaps of recording not  
7 recorded within there.  
8 Q So we're doing -- do you want to zoom it up  
9 a little bit to make it easier for you?  
10 A (Witness complies)  
11 Q Okay, that's good. So now you also see  
12 here in 2616 --  
13 A Is that 16, or is that --  
14 Q That's 16.  
15 A Is that forward or the back one?  
16 Q Trust me, it's 16.  
17 A Okay. Making sure. Go ahead.  
18 Q See that -- what appears to be a white or  
19 light-colored silhouette of some sort of a -- maybe a  
20 human being?  
21 A Possibly.  
22 Q Okay. And so you see that -- and we're

Page 240

1 going to call it a silhouette for purposes of the  
2 record. Is that okay?  
3 A If that's what you want to call it, go  
4 right ahead.  
5 Q Okay. You see it there at 2616, but let's  
6 see if you see it at 2615.  
7 A I see something right here.  
8 Q But not to the extent that you see it on  
9 2616?  
10 A No. Obviously, there's been some movement  
11 between one frame to another.  
12 Q And it just so happens that that  
13 silhouette, for lack of a better word, happens to  
14 appear at the same time that the round white dot  
15 appears?  
16 A If that's what it shows in the imagery, you  
17 know and --  
18 Q Well, I'm giving it to you here so that you  
19 can see the difference between those two.  
20 A There is a difference between the movement  
21 of one frame to another with the -- between the  
22 content --

Page 241

1 Q And those two items are the ones that  
2 differ, correct? In unison?  
3 A At those two points.  
4 Q In unison?  
5 A At those two points, yes.  
6 Q Okay.  
7 A Anything else in the middle we can probably  
8 look at and find differences so --  
9 Q So was that important when you were looking  
10 at this? Because you're here trying to forensically  
11 help the government, correct?  
12 A No, actually, I am here specifically to  
13 state the truth. Whether it --  
14 Q Well, I'm not saying that forensically  
15 helping the government is not the truth.  
16 A That is my job. I define this evidence not  
17 for the defense, not for the prosecution. I define  
18 this evidence as what it is. Who it helps or who it  
19 hurts is not my prerogative.  
20 Q You testify for the defense?  
21 A You -- why I'm here for you.  
22 Q No, no, but the FBI doesn't testify for the

Page 242

1 defense. I can't call you and say, Hey, listen, I've  
2 got this case I want you to work on, right?  
3 A No.  
4 Q Okay. So did you notice that difference  
5 between those two frames when you were first  
6 reviewing this film, this image?  
7 A I have noticed several differences between  
8 frames, because usually content changes as it  
9 records.  
10 Q I'm not worried about -- I'm worried about  
11 this distinction that we just talked about here.  
12 A I've seen these frames before, yes.  
13 Q Okay. And so you -- what you're telling me  
14 is, Look, Rick, I couldn't form an opinion as to what  
15 that was at this point?  
16 A I don't have an opinion as to what that is.  
17 Q Okay. Now, you made a statement that later  
18 on in your analysis that you believed that that dot  
19 that we're talking about -- that white dot was  
20 somehow a reflection from someone's shoe. Is that  
21 what I heard you to say?  
22 A When did I say that?

Page 243

1 Q Well, just a few minutes ago. If you  
2 didn't say it, if that's not your position, I just  
3 wanted to make sure that --  
4 A I don't recall saying that. I think that I  
5 said that I don't have an opinion as to what that  
6 reflection is at all. I have no definition. I have  
7 no explanation. I have no official opinion as to  
8 anything that's going on in this video beyond what I  
9 have asked to do.  
10 Q And so let's make sure that we clear up  
11 reflection then. So you don't even know if it's a  
12 reflection?  
13 A I don't know what it is. I have not been  
14 there. I have not done any testing within the  
15 theater to the camera to the DVR to define what that  
16 spectral highlight is. I have written in my report I  
17 do not know what that is.  
18 Q What's your definition of spectral  
19 highlight?  
20 A The spectral highlight, it is a light  
21 object within that scene.  
22 Q Okay. A light object within that scene?

Page 244

1 A Yes.  
2 Q Okay. And so here, did we have two -- and  
3 I'm talking about these two frames that we just  
4 talked about. Have we had two spectral highlights --  
5 that being one that was the white dot that we talked  
6 about, and the other one being the silhouette? Is  
7 that also a spectral highlight?  
8 A It is a spectral highlight to a point.  
9 It's a brighter point of light than anything else  
10 around it.  
11 Q Okay. And so you would want to analyze --  
12 since they are both spectral highlights, you would  
13 want to analyze not just the round appearing dot  
14 that's white, but you would also want to investigate  
15 and test and examine the silhouette appearing  
16 spectral highlight?  
17 A Why would I want to do that? I was not  
18 asked to do that during this examination.  
19 Q Well, I know you weren't asked to do that.  
20 But I guess my better question is: Why wouldn't you?  
21 If you want to find out what the truth is, I would  
22 imagine that you want to investigate and determine

1 everything that's within these frames. You said that  
2 from the very beginning. I wanted to take a look at  
3 everything that was taking place during this alleged  
4 confrontation so that I could provide that to the  
5 government.

6 A Correct.

7 Q And so why -- if that's also a spectral  
8 highlight, why would you not want to do the same  
9 thing that you did to that silhouette to that round  
10 white object?

11 MR. MARTIN: You got it backwards.

12 MR. ESCOBAR: No.

13 BY MR. ESCOBAR:

14 Q Why would you not want to do to the  
15 silhouette what you did to the round white object?

16 A For the course of this first investigation  
17 I did, I enhanced those frames that contained those  
18 individuals, that portion of the video, produced the  
19 video, produced the images of what we're seeing  
20 today.

21 Q Okay. So we're not at the enhanced yet,  
22 we're just here at the raw images?

1 A Correct.

2 Q Because I wanted to -- since you looked at  
3 those first, that's the first process that you used,  
4 correct?

5 A I reviewed the video.

6 Q Okay. The raw video?

7 A Yes.

8 Q As we have it here?

9 A That is the raw -- that is the images that  
10 were exported, yes.

11 Q And those were not the enhanced ones?

12 A Correct.

13 Q At least what you provided us indicates  
14 they were not the enhanced ones, right?

15 A Correct.

16 Q Okay. So now let's go to 2619.

17 MR. ESCOBAR: Dino, do you want to do that?

18 MR. MICHAELS: I'd love to.

19 BY MR. ESCOBAR:

20 Q So let's take a look at this one, and you  
21 can zoom it in as well.

22 A Okay.

1 Q And let's see if you can see or did you see  
2 when you examined this particular image -- because  
3 you examined all of the images, right?

4 A I reviewed them, yes.

5 Q If you are able to see now a small round  
6 object, white in color, in that particular frame?

7 A If it's visual to you, then I can see it as  
8 well and as well as anybody else.

9 Q So we're talking about that little object  
10 right there (indicating), right? Which appears to be  
11 again in row A?

12 A Yeah, it looks like a different level of --  
13 shade of whatever -- different than from around it.  
14 Yes, there is a highlight of some sort there.

15 Q Okay. And the silhouette appears to still  
16 be in that particular frame; is that correct?

17 A Uh-huh.

18 Q Okay. And what is the difference in  
19 seconds or fractions of a second between this one  
20 here, which is the 19 -- the 2619 and the 2615 and 16  
21 that we saw before?

22 A I don't know. Do you have the timeframes

1 down?

2 Q I do.

3 A So subtract one from the other, and we'll  
4 have the timeframe.

5 Q It's -- 2616 (tenders document.)

6 A Okay. 13:25.346 or 13:26:25?

7 Q 2619 (tenders document.)

8 A 13:26:25.446, so you're talking just a  
9 couple of frames.

10 Q Couple of?

11 A Frames.

12 Q Frames?

13 A Uh-huh.

14 Q Fractions of a second?

15 A A couple of frames, yes.

16 Q So what was your thought process when you  
17 saw that? Of that -- because you reviewed it.

18 A Uh-huh.

19 Q So you're trying to figure out what's  
20 pertinent, right?

21 A Uh-huh.

22 Q In this image, because that's what you're

Page 249

1 assigned to do?

2 A Yes.

3 Q Pertinent areas?

4 A Uh-huh.

5 Q So what's pertinent about this one?

6 A That would be two individuals in that area  
7 where the confrontation takes place.

8 Q Two individuals?

9 A Or individuals or movement or recording  
10 that happens during that time.

11 Q Okay. And so your perception was, Hey,  
12 listen, there appears to be, you know, an individual  
13 that has a portion of his body into row A?

14 A So as I stated before, I have no opinion.  
15 This video was recorded. I processed it to the point  
16 where it was recorded, and then there was movement  
17 there. The video that was not recorded was not of  
18 any concern to myself, so if there was movement, if  
19 there was video between these timeframes, I processed  
20 it just the same.

21 Q Well, then I guess my question is: What's  
22 pertinent? If you're here trying to look at all of

Page 250

1 these particular single frames to see what's  
2 pertinent, how do you define that for yourself?

3 A My definition of pertinent is anything  
4 dealing with any type of a conversation -- video --  
5 excuse me. Any type of a video that was recorded  
6 with these individuals in it from the start of the  
7 confrontation or the start of when they come into  
8 this area, until a point in time when I decide that  
9 any more information is not pertinent.

10 Q So pertinent for you is really a time  
11 period?

12 A Time period, yes.

13 Q Nothing else? It's -- pertinent to you is  
14 not anything that you're actually seeing on the image  
15 itself?

16 A To a point. So I've been asked from both  
17 the case agent and the prosecutor to define certain  
18 areas within this video, and I cut that out and broke  
19 out to different videos. But as far as did I cut  
20 stuff out? Did I, you know, zoom in on something?  
21 No, I try to process everything equally that was  
22 recorded on there.

Page 251

1 Q And what you're telling me is, Look, Rick,  
2 the one thing that I didn't do any spectral highlight  
3 analysis whatsoever was on that silhouette  
4 appearing --

5 A There was no question nor a request to  
6 analyze that spectral highlight beyond just a visual  
7 analysis of this imagery.

8 Q Well, if that particular silhouette is an  
9 individual that is attacking someone in row A, don't  
10 we think that would be a little important to do your  
11 spectral highlight analysis?

12 A That's why I produced this enhanced video  
13 to allow anybody and everybody that watches it to be  
14 able to see what's going on in the video equally.

15 Q Oh, so you're saying, Hey, listen, it's not  
16 my job to tell the prosecution, Hey, listen, this is  
17 what I see here, maybe it's a good idea to do a  
18 spectral highlight on the silhouette, just leave it  
19 to somebody else to figure that one out?

20 A You can see what I can see. I thought we  
21 weren't doing the spectral highlight just yet as far  
22 as questions.

Page 252

1 Q No, no, no, but it's -- it's not doing it  
2 yet, but it's having the mental process of deciding,  
3 Hey, I think we need to do a spectral highlight on  
4 this, I think we need to do a spectral highlight on  
5 that.

6 A That wasn't -- what was requested of me is  
7 what I did. And as far as everything else or  
8 anything else defined within the video, it wasn't  
9 asked.

10 Q Okay.

11 MR. MARTIN: Richard, are you going to mark  
12 these as exhibits?

13 MR. ESCOBAR: Not these, because they're  
14 marked in the hard drive. That's the -- I'm going to  
15 go through all of the --

16 MR. MARTIN: Well, so far you haven't put  
17 anything on the record as what's marked or not  
18 marked.

19 MR. ESCOBAR: Yeah, no, we've -- we've  
20 talked about what image it was in the unenhanced  
21 section, so it's pretty clear what we're talking  
22 about.



1 MR. MARTIN: I'm talking about attached to  
2 the depo.

3 MR. ESCOBAR: No.

4 MR. MARTIN: Are you going to attach those  
5 frames?

6 MR. ESCOBAR: No.

7 MR. MARTIN: Why?

8 MR. ESCOBAR: There's no need to.

9 MR. MARTIN: Why?

10 MR. ESCOBAR: There's no need to. We've  
11 identified it. It's your hard drive that you gave to  
12 me.

13 MR. MARTIN: So?

14 MR. ESCOBAR: Well, do your depo as you  
15 want to do it. I'm going to do it as I want to do  
16 it. It's as simple as that.

17 MR. MARTIN: No, I thought we were going to  
18 follow the rules. Isn't that a conversation we had  
19 about a year ago?

20 MR. ESCOBAR: I hate to tell you --

21 MR. MARTIN: Now, so the rules are just for  
22 me and not for you?

1 MR. ESCOBAR: I don't know what rules  
2 you're talking about.

3 MR. MARTIN: Oh, well, that's what I said.  
4 So are you going to attach those to --

5 MR. ESCOBAR: Glenn, you don't make the  
6 rules.

7 MR. MARTIN: Really?

8 MR. ESCOBAR: No.

9 MR. MARTIN: If I recall the Rules of Civil  
10 Procedure is that all exhibits shown to the witness  
11 are attached to the depo. Isn't that in the rules?

12 MR. ESCOBAR: No, no.

13 MR. MARTIN: Yes, it is.

14 MR. ESCOBAR: No, no, no.

15 MR. MARTIN: Yeah, it is.

16 MR. ESCOBAR: No. We've identified it. I  
17 don't have to attach it to a depo.

18 MR. MARTIN: Yes, you do.

19 MR. ESCOBAR: No. Well, we'll argue about  
20 it at some point in time. That's when we'll argue  
21 about it.

22 MR. MARTIN: You're not going to follow the

1 rules?

2 MR. ESCOBAR: That is not the rule. I'm  
3 identifying it for the record. He's got it in front  
4 of him, and not only did I put mine in front of him,  
5 I've given him the opportunity to put his own hard  
6 drive.

7 MR. MARTIN: You're questioning him as to  
8 what was shown, you have the printouts right there.  
9 Why aren't you marking them? That's what he was  
10 shown.

11 MR. ESCOBAR: Because I need these  
12 printouts for myself.

13 MR. MARTIN: So you didn't come prepared to  
14 put your exhibits in.

15 MR. ESCOBAR: Oh, no, I came prepared.  
16 Look, they're all marked. They're all labeled, the  
17 whole bit. It's a thing of --

18 MR. MARTIN: So have her mark them and  
19 attach them to the depo.

20 MR. ESCOBAR: Glenn, you're not going to --  
21 you're not going to dictate what we do here.

22 MR. MARTIN: I'm going to remember that.

1 MR. ESCOBAR: Okay. Okay, remember it.

2 MR. MARTIN: Put on the record that the  
3 State objects not marking the exhibits and attaching  
4 them to the depo, in which he has copies of and ready  
5 and prepared to do it, but he's just refusing.  
6 BY MR. ESCOBAR:

7 Q Okay. Now, I want you to go now to the  
8 enhanced sections --

9 A Okay.

10 Q -- that are going to be identical to what  
11 we've just talked about. So we're going to start  
12 with 2615, and let's go to the enhanced.

13 MR. ESCOBAR: Dino, do you want to do this  
14 so that he --

15 MR. MICHAELS: All right. Number, please?

16 MR. ESCOBAR: 2615.

17 MR. MICHAELS: Okay. (Tenders laptop)  
18 BY MR. ESCOBAR:

19 Q And you can zoom it in. I want you to do  
20 whatever you need to do to facilitate what you're  
21 seeing.

22 A Okay.



Page 257

1 Q And this is the enhanced --  
2 A Uh-huh.  
3 Q -- image?  
4 A Okay.  
5 Q 2615. Is that correct? You're seeing it  
6 on the very top of the computer there?  
7 A Okay, uh-huh.  
8 Q TIFF? Okay. I want you to now go to 2616.  
9 Okay. So now this image has been enhanced.  
10 A Okay.  
11 Q Okay. And what portion of that image has  
12 been enhanced?  
13 A The entire picture.  
14 Q How do you do this? Tell me how -- how did  
15 you make this an enhanced image?  
16 A So I believe this particular image -- let  
17 me look at it so I'm not leaving out anything here.  
18 This is Camera 11, correct? Is that Camera 11?  
19 Q That's Camera 11.  
20 A Okay. So applied shadows and highlights  
21 twenty zero, changed the mode to gray scale, adjusted  
22 image size 300 pixels per inch, 3000 by 2000 Bicubic

Page 258

1 Smoother, saved --  
2 THE COURT REPORTER: Whoa --  
3 MR. ESCOBAR: Yeah, sorry. I couldn't  
4 understand you.  
5 THE COURT REPORTER: Back it up just a  
6 little bit, please.  
7 MR. MARTIN: Yeah, from the beginning.  
8 THE WITNESS: So this particular one, on  
9 these images I applied shadow and highlights at a  
10 mark of twenty to zero, so shadows twenty, highlights  
11 zero.  
12 BY MR. ESCOBAR:  
13 Q Where? Was that the entire image?  
14 A That's the entire image.  
15 Q Okay. So if you're doing something other  
16 than the entire image, please let me know, because,  
17 otherwise, we're going to understand you're doing the  
18 entire image in that same form.  
19 A Yes. So I tried do an extreme on the  
20 entire one.  
21 Q Okay.  
22 A So twenty and zero. Changed the mode to

Page 259

1 black and white. Increased the image size to 3000 by  
2 2000 pixels Bicubic Smoother, and saved it as a TIFF  
3 image.  
4 Q Okay.  
5 A So a very simple enhancement, not changing  
6 much at all. Basically just brightening the image up  
7 so you can see into the shadows.  
8 Q Okay.  
9 A And that's it.  
10 Q And so what does that do with the image?  
11 Does it brighten everything up, or does it --  
12 A Yes.  
13 Q -- brighten only certain things up?  
14 A It looks at the shadows and tries to bring  
15 up some of the highlights within the shadows.  
16 Q Okay. And so, likewise, you see the round  
17 white object --  
18 A Uh-huh.  
19 Q -- in this particular enhanced image?  
20 A Yes.  
21 Q As well as you see the white -- what  
22 appears to be a human silhouette of some sort?

Page 260

1 A It does.  
2 Q Okay. And, likewise, you still see the  
3 round white object in the CinéBistro seats at the  
4 very top of the --  
5 A There's a lot of white stuff going on in  
6 that frame, but yes.  
7 Q Okay. Now, does that happen the minute  
8 that you're trying to enhance it that you're going to  
9 get other areas of the image that are going to get  
10 much whiter?  
11 A It's a defined enhancement, so it's -- it  
12 takes in the entire imagery.  
13 Q Okay. And do you look at other areas to  
14 determine, for example, areas that you did not see  
15 beforehand, but now you see?  
16 A You're going to have to define that because  
17 I --  
18 Q Well, let's look way over here. At the far  
19 end it appears -- again, it appears to be in that  
20 same row, there appears to be another white dot.  
21 A Okay. So there's a different --  
22 Q That is white?

Page 261

1 A There's a shade change over there, yes. It  
2 looks like there's other people in the theater, as  
3 proven in the video if you watch it later on. There  
4 are other people back at that side of the theater.

5 Q Okay. And so the -- how is it that these  
6 two items that are round and appear to be white, how  
7 is it that one item appears to be brighter to the  
8 naked eye than the other? What causes that?

9 A What causes it?

10 Q Yeah.

11 A It's a different shade of light. I mean,  
12 we're looking at an image. You're asking me why is  
13 it defined here versus there? Well, it's brighter  
14 there than it is further on. I mean, there's --  
15 without knowing what the source is, I cannot ask or  
16 answer that image -- or that question.

17 Q Distance?

18 A Again, I don't know what the source of it  
19 is.

20 Q Does that affect it at all? Distance?

21 A I don't know what the source is. I don't  
22 know what the camera function is. When you see an

Page 263

1 what you're looking at. The tonality strength of  
2 whatever that is. Yes, it could be in the shadows.  
3 It could be -- and, again, I don't know what that is  
4 in the distance. I have no discernable answer to  
5 that. I don't know what this is in the foreground.  
6 I have no opinion to anything that's going on within  
7 this imagery, as I stated multiple times.

8 Q But, certainly, when you did this  
9 enhancement, you were able to see that?

10 A I did a full enhancement on the entire  
11 image. I did not focus on one thing or another in  
12 this particular image.

13 Q Likewise, in this enhancement you're  
14 telling me, Look, Rick, I have no idea what's going  
15 on there. I can't tell you what the objects were. I  
16 can't tell you anything about this particular image.  
17 Correct?

18 A I have no opinion. I have no opinion about  
19 what action or what devices or what -- anything  
20 that's going on in this video. You're viewing this  
21 the same way as I'm viewing this. You can have an  
22 opinion. I can have an opinion. Anybody that can

Page 262

1 image, you see what I see.

2 Q But you're clearly looking at Camera 11.

3 A Yes.

4 Q And so you know where Camera 11's at,  
5 right?

6 A Yes.

7 Q It's on the right-hand wall of this  
8 theater?

9 A Yes.

10 Q The round white dot that we're seeing now  
11 at the very end of the far end of row A --

12 A Okay.

13 Q -- appears to be farther from the actual  
14 camera, correct?

15 A Appears to be, yes.

16 Q So does the distance between the camera and  
17 the object that it's capturing, does that affect  
18 color at all?

19 A We're not looking at color, because it's  
20 black and white.

21 Q Well, I'm talking about white versus --

22 A So you're looking at shades, so tonality is

Page 264

1 view this can have an opinion. I have no opinion as  
2 to what is going on in this imagery right now.

3 Q Okay. Let's go back to the raw images.  
4 And I'm going to ask you to -- let's take a look at  
5 2629. Okay. Remember seeing this particular image  
6 in your review?

7 A Many times over, yes, sir.

8 Q Okay. Now, there appears to be a round  
9 white item --

10 A Yes.

11 Q -- that appears to be lower than the  
12 previous white round object that we saw?

13 A Now, I want to point out you just used the  
14 word appears to be.

15 Q Appears to be.

16 A Okay.

17 Q Yeah, to me. I'm a layperson.

18 A All right. Just making sure. You used  
19 that word appears to be.

20 Q I'm going to use it.

21 A Okay.

22 Q Am I correct?

Page 265

1 A What you see is what I see, sir.  
2 Q Okay. And so can you tell me what that  
3 particular round object white is?  
4 A As I've stated on multiple occasions, I  
5 have no opinion as to the source of any light,  
6 movement, object or anything within this frame, and  
7 you have as much information as I do.  
8 Q Or why it may even appear in a different  
9 location?  
10 A Again, sir, looking at the image, I have no  
11 discernable information as far as what's going on in  
12 this particular image any more than you do.  
13 Q Okay. And I would imagine that likewise in  
14 the other images you did not seek to do any spectral  
15 highlights on the silhouette, the white silhouette  
16 that we've been talking about before in the previous  
17 images, correct?  
18 A In this initial examination -- and I want  
19 to make it clear that there's different examinations  
20 here, I did not pay particular attention in this  
21 frame to anything in particular as far as what is  
22 anything other than processing the video, I have no

Page 266

1 opinion as to what is going on in the video.  
2 Q Okay. Just got a few more in the stack.  
3 A Yes, sir.  
4 MR. ESCOBAR: Dino, let's go to the  
5 enhanced of that one, just so that he can look at it,  
6 and then we're going to go back to the original.  
7 BY MR. ESCOBAR:  
8 Q This will be an easy one.  
9 A Oh, I'm fine.  
10 Q Wait, we've now got the enhanced. We now  
11 have the enhanced. Is your answer the same in  
12 reference to the enhanced?  
13 A Yes, sir. I did an overall enhancement of  
14 the entire frame to lighten up those objects that are  
15 in the shadows so an individual can discern on  
16 themselves what is going on in that particular frame  
17 at that point.  
18 Q But you have no opinion as to what's going  
19 on, what objects are there?  
20 A I do not.  
21 Q The movement of any objects? Nothing of  
22 that sort?

Page 267

1 A For this examination, no, sir, I do not.  
2 MR. ESCOBAR: Okay. So now, Dino, let's go  
3 to 2644, raw image. Well, Glenn, I'm going to make  
4 you happy. I'm going to put all of them in for you  
5 so that you have a smile, because I see you pouting  
6 over there.  
7 MR. MARTIN: I'm not pouting. I wore my  
8 big boy pants today.  
9 MR. ESCOBAR: Those are your big boy pants?  
10 MR. MARTIN: Yeah.  
11 MR. ESCOBAR: We'll mark them all down and  
12 make sure that we get them all correct before we're  
13 done. Okay?  
14 BY MR. ESCOBAR:  
15 Q We just have to make sure that the record  
16 is clear you're looking at the actual photos via a  
17 computer versus what we're going to be putting in,  
18 which is a copied --  
19 A Yes, sir. Is this the original or the  
20 enhanced?  
21 Q That's the original.  
22 A Okay.

Page 268

1 Q Okay. Do you want to zoom it up a little  
2 bit?  
3 A Okay.  
4 Q In that particular photo there appears to  
5 be a gentleman sitting. Do you know who that is?  
6 A I do not.  
7 Q Do you have any opinion?  
8 A From this imagery, I do not know who it is.  
9 I do not know. I've never done a comparison. I've  
10 never done an identification. To me it is an  
11 individual that is in the video.  
12 Q Okay. And can you tell me anything about  
13 what that individual is doing?  
14 A I do not have an opinion as to the action,  
15 movements or anything within this video, other than  
16 what a normal person would. So your definition of  
17 what's going on would be the same as mine.  
18 MR. ESCOBAR: Dino, write that down.  
19 That's 2644. So we can have a running list for  
20 Glenn. I know he's probably doing it as well.  
21 BY MR. ESCOBAR:  
22 Q Let's go to the same on 2645 and 2646. Can

1 you go ahead and move forward on those just to take a  
2 look at them --

3 A Yes.

4 Q -- to make sure that we're on the --

5 A Yeah.

6 Q And that your answer is the same?

7 A They are. I have no opinion as to what's  
8 going on in there. A layperson can see exactly what  
9 I'm seeing.

10 MR. ESCOBAR: Dino, let's go now to the  
11 enhancements on all of those three.

12 BY MR. ESCOBAR:

13 Q Okay. Let's go through those three, and  
14 let me know whether you feel the same as you felt  
15 about the nonenhanced?

16 A Exactly the same, sir. Again, you're being  
17 able to review some of the details out of the shadows  
18 after the enhancement. It allows you to see a little  
19 bit more. But as far as an opinion of what's going  
20 on, I have none. Did you want to see the series?

21 MR. EARL: No.

22 MR. ESCOBAR: We can let you see the

1 attachments.

2 MR. EARL: That's okay. Just curious.

3 MR. ESCOBAR: Just curious? You're bored.

4 MR. EARL: I'm not going to say that.

5 MR. ESCOBAR: You're not going to say that?

6 BY MR. ESCOBAR:

7 Q In this stack we're good. We only have --  
8 okay.

9 MR. ESCOBAR: Dino, let's go to 2222, 2223  
10 and then we're going to go to 2224. So start with  
11 2222, the unenhanced. And this is Camera 12, Dino.  
12 Did I mess you up by going to Camera 12? Let's go  
13 back to Camera 11. I can do 11.

14 MR. MICHAELS: Either way, I can just press  
15 a --

16 MR. ESCOBAR: Yeah, let's stay with 11,  
17 because it makes it -- it makes it much easier for  
18 the depo instead of switching cameras. Let's go to  
19 Camera 11, and then we're going to go to 2801.

20 MR. MICHAELS: The original recipe, right?

21 MR. ESCOBAR: Original recipe.

22 BY MR. ESCOBAR:

1 Q Okay. Taking a look at that particular  
2 image, which you have reviewed --

3 A Multiple times.

4 Q -- to determine important details. Can you  
5 tell me what is taking place within that particular  
6 image and who the parties are that are reflected in  
7 that image?

8 A I stand by my original explanation. An  
9 individual could look at this and derive the same  
10 situation that I would. I have no opinion as to  
11 what's going on, who is doing what in this imagery.

12 Q Did you consider anything in this imagery,  
13 because you don't see the round bright -- or the  
14 round white dot near the individuals or the white  
15 silhouettes that appear, did you do any spectral  
16 highlights or decide, Hey, I think we ought to do  
17 some spectral highlights of these white silhouettes  
18 that I'm seeing there?

19 A No. The only thing I did with this is that  
20 basic enhancement to lighten the detail out of the  
21 shadows.

22 Q So let's look at two other ones quickly.

1 You can just roll through those, 2803 and 2804, just  
2 to make sure your answer for those two are the same.

3 A Yes, sir.

4 Q Okay.

5 MR. ESCOBAR: Dino, let's look at the  
6 enhancements now on these, please. 2801, 2803 and  
7 2804, but if you go to 2801 first, I'll take him  
8 through it.

9 BY MR. ESCOBAR:

10 Q Okay. So let's go to 2801. Is your answer  
11 any different now that you've enhanced this  
12 particular image?

13 A No, sir. The enhancement just shows a  
14 little bit more detail in the shadows.

15 Q So you have no opinions as to anything  
16 that's taking place there?

17 A No, sir. It is what it is.

18 Q Okay. And that's for 2801, 2803 and 2804?

19 A Yes, sir.

20 MR. ESCOBAR: Dino, let's go now to 2823.

21 MR. MARTIN: Still on Camera 11?

22 MR. MICHAELS: Camera 12?

Page 273

1 MR. ESCOBAR: This is still Camera 11.  
2 We're not going to Camera 12 until we're at the end,  
3 just to make it easier for the deposition process.

4 MR. MICHAELS: What do you want?

5 MR. ESCOBAR: Give me 2801 -- excuse me,  
6 2823, 2824 and 2825.

7 MR. MICHAELS: 2823?

8 MR. ESCOBAR: Uh-huh, 2823 we start with.

9 BY MR. ESCOBAR:

10 Q These are going to be the original raw  
11 files.

12 A Yes, sir.

13 Q Tell me anything that -- obviously, you  
14 were looking for pertinent facts, pertinent detail?

15 A I was processing the area of interest.

16 Q Area of interest?

17 A Yes, sir.

18 Q So what are you able to see at 2823, 2824,  
19 and 2825, if anything? Do you have any opinions as  
20 to what's going on?

21 A I have no opinions. The visual effects of  
22 what's going on in the video, anybody can discern

Page 274

1 exactly what I see.

2 Q Okay. And, again, did you make any mental  
3 note in the future to do some spectral highlights of  
4 your own in order to give you a better idea of what  
5 was going on?

6 A That was a separate examination. And if  
7 you want to delve into that, we can delve into that  
8 of which I did later on.

9 Q But it wasn't part of your thought process  
10 in your original examination, and nobody had pointed  
11 that out for you to do in your -- in the original  
12 examination?

13 A The original examination was enhancement.

14 Q Uh-huh.

15 A They wanted me to try and identify some --  
16 not identify, but cut the video in areas to where I  
17 could -- or a person could see things clearer.

18 Q Okay.

19 A So as far as identify, no, my purpose in  
20 this point was not to identify anything. Just  
21 visually show these videos in a way that individuals  
22 could make their own decision.

Page 275

1 MR. ESCOBAR: Okay. So now we're going to  
2 go with the enhancements of those real quickly, Dino.

3 BY MR. ESCOBAR:

4 Q Okay. Review those and let me know if your  
5 answer is the same. We've only got a few more to go.

6 A My answer has not changed, sir.

7 Q It has not changed?

8 A No, sir.

9 Q Even after reviewing the enhanced, correct?

10 A It was a general enhancement over this  
11 imagery.

12 MR. ESCOBAR: So let's go to the raw images  
13 now, Dino, of 2846 and 2847.

14 THE WITNESS: Okay, sir.

15 BY MR. ESCOBAR:

16 Q Okay. So let's take a look at those two,  
17 2846 and 2847, and tell me in looking at that image  
18 and looking at the critical detail that you were  
19 searching for, what did you find?

20 A Again, my answer stands. I processed the  
21 video, and it is what it is. I have no opinion as to  
22 what's going on.

Page 276

1 MR. ESCOBAR: Dino, the enhancements on  
2 those.

3 BY MR. ESCOBAR:

4 Q I think we've only got three or four more?

5 A I am here for you, sir. So as I  
6 understand, if I recall, there are 2,354 of the  
7 Camera 11 images.

8 Q Do you want to go through them?

9 A I processed every one exactly the same.

10 Q And your answer would be the same to all of  
11 them?

12 A The exact same thing to every last one of  
13 those images for this examination.

14 Q We've only got one more group to go through  
15 in this -- okay, again, in looking at those  
16 particular nonenhanced -- well, this is enhanced.

17 MR. MARTIN: This is enhanced.

18 A This is enhanced.

19 Q In looking at these particular images that  
20 were enhanced, does that change your answer to your  
21 previous at all? The same?

22 A No, it derives a little bit more

Page 277

1 information out of the detail -- or out of the  
2 shadows where any individual can make a decision.

3 Q But you have no opinions?

4 A I have no opinion.

5 MR. MARTIN: And these were frames 2846 and  
6 2847?

7 MR. ESCOBAR: (Nods head.)

8 BY MR. ESCOBAR:

9 Q Okay. We've only got three more right now.

10 A Okay.

11 MR. ESCOBAR: And, Dino, we're going to  
12 switch now to Camera 12, and we're going to do 222,  
13 223 and 224.

14 MR. MICHAELS: Frame 2022 TIFF?

15 MR. ESCOBAR: Frame 2222.

16 MR. MICHAELS: Okay.

17 MR. ESCOBAR: It's at 13:26:38.069.  
18 Actually, 222 is 13:26:38.036.

19 MR. MICHAELS: I've got it. You just left  
20 out a two.

21 MR. ESCOBAR: Did I leave out a two?

22 MR. MICHAEL: Yeah, we got it.

Page 278

1 MR. ESCOBAR: It's those next three in  
2 sequence.

3 BY MR. ESCOBAR:

4 Q You can zoom it in, if you like.

5 A That's fine. I know the video.

6 Q You know the video?

7 A I know the video very well.

8 Q How do you know that video that well?

9 A I've watched it several times.

10 Q What is that video?

11 A I have no opinion as to what's going on in  
12 the video. I've just seen the video.

13 Q Okay. Is that the first video after the  
14 alleged shooting from Camera 12?

15 A I believe during this action that was the  
16 first recorded action that was recorded. So, again,  
17 during the content I have no opinion as to what's  
18 going on, but this is the first recordable video on  
19 this camera from this angle during that time period.

20 Q Okay. How did you determine when the  
21 shooting actually took place?

22 A I didn't determine anything.

Page 279

1 Q Okay. You didn't?

2 A I did not.

3 Q So you have no idea of at what timestamp on  
4 any video the actual shooting took place?

5 A Other than what you can see is what I can  
6 see. As far as when they exactly got shot, who got  
7 shot, I have no opinion on it.

8 Q Okay.

9 A What you see is what I see.

10 BY MR. ESCOBAR:

11 Q Let's go to the enhancement, and the same  
12 question is going to apply for the enhancement.

13 A It's going to be the same answer.

14 Q Well, let's have you take a look at it just  
15 so that we can be safe. Same question now to the  
16 enhanced.

17 A And I have the same answer for you, sir.

18 Q Okay. So now you've gone through these  
19 images and you have applied some enhancement  
20 procedures --

21 A Yes.

22 Q -- to them? And can you tell me what

Page 280

1 procedures in particular? Did you apply the same  
2 enhancement procedures to all the images?

3 A So this particular video I took a timeframe  
4 of 13:18:10.412 to 13:26:41.479.

5 Q Right.

6 A Exported out every image during that time  
7 period. I applied the exact same filters to every  
8 frame and exported each frame exactly the same.

9 Q And the filter that you used was what?

10 A I applied shadows and highlights at a level  
11 of twenty to zero, changed the mode to gray scale,  
12 black and white, and adjusted the image size to 3000  
13 by 2000 Bicubic Smoother, and then saved it.

14 Q Okay. What else did you do in this first  
15 round of analysis?

16 A Produced several videos. Okay, there were  
17 more images, of course. I did do some cropping of  
18 that bottom right-hand corner, just to increase the  
19 size of that area versus the full frame. So let's  
20 see here. Camera 12 exported 930 TIFFs.

21 Q Now, in the cropping that you did, what did  
22 that -- what did that help you with?

Page 281

1 A It's just a visual thing. Instead of  
2 looking at 90 percent of nothing that really helps,  
3 just to increase the area of interest. That's all.

4 Q Okay. And did that change your opinion  
5 from the opinions that you've given me here on any of  
6 the videos?

7 A It does not. It's a visual effect.

8 Q You still have no opinions as to --

9 A I have no opinion on this enhancement.

10 Q What else did you do?

11 A I produced a myramid (sic) of videos --

12 Q Okay.

13 A -- from the different videos that was  
14 received.

15 Q Right.

16 A And pushed those out.

17 Q And were those videos enhanced as well?

18 A They were.

19 Q Were they all enhanced?

20 A I would think so.

21 Q Well, that's why I'm asking you. I want to  
22 make sure that all of the videos --

Page 282

1 A Hold on, hold on.

2 Q Let's call them out, the ones that you  
3 believe you enhanced, so that we have them on the  
4 record.

5 A Fourteen enhanced videos, seven image  
6 contact sheets, four hundred and thirty-seven counter  
7 images, one MOV, right counter --

8 THE COURT REPORTER: I'm sorry, one what?

9 THE WITNESS: MOV, Motion Object Video.

10 So from the start, I produced 14 enhanced videos,  
11 7 image contact sheets. Of those images were the  
12 counter images; 437 enhanced, 437 original, one MOV  
13 video that the images were extracted from; right  
14 counter service images, 1,442 images enhanced, 1,442  
15 originals images, one MOV video where the images were  
16 extracted from. Theater 11 camera images: 2,324  
17 enhanced, 2,324 original, 2,324 cropped, one MOV  
18 video that those images were extracted from.

19 Theater Camera 12: 931 original images,  
20 931 enhanced, 931 cropped, one video -- one MOV video  
21 that the images were extracted from.

22 Theater entrance: 513 original images, 531

Page 283

1 (sic) enhanced, one MOV video the images were  
2 extracted from. Produced one set -- one set, there  
3 we go. Produced copies -- two copies of exam results  
4 hard drive and recorded each enhanced MOV video to  
5 three DVDs per Mr. Marin's request, forty-two DVDs  
6 produced in total.

7 Q Now, all of the videos, however, were  
8 enhanced that you produced?

9 A I believe so, yes.

10 Q Why?

11 A Why?

12 Q Uh-huh.

13 A Because that is the request that I have  
14 been given, is to enhance the videos.

15 Q Okay. And you enhanced them in the  
16 identical format that you've just told me previously  
17 here when I asked that question? Method of  
18 enhancement?

19 A Method of enhancement. So the method of  
20 enhancement, yes. Well, I applied different filters,  
21 resized, so each video is independent of itself.

22 Q Well, tell me the different filters that

Page 284

1 you applied to which enhancements.

2 A Okay. So the first one was timeline of  
3 events. Blackmagic project, Adobe project 1920 by  
4 1080, progressive, uncompressed. I imported the  
5 videos file subject entry, entrance, customer  
6 service, theater left side, theater left, subject  
7 walks by, theater right side, right side, entrance,  
8 theater right arrest, and theater left side arrest.

9 I produced the timeline of the movements  
10 and the interaction of the individuals within that  
11 area of interest. I ensured that the time -- the  
12 times were all synced up. So as one moves into the  
13 other, the first recording shows up. Applied levels  
14 of -- let's see here. Subject and wife enter  
15 facility. So that would be the subject entry MOV.  
16 Applied levels of 2.88 and 251, scaled the video to  
17 project size. Subject and wife walked past counter  
18 with snacks. I applied levels 21.00255, scaled video  
19 to project size. Subject and wife enter theater,  
20 Cameras 11 and 12. Video synced by date and time. I  
21 adjusted motion control to place videos side by side  
22 in the video sequence, resized to fit. So both



Page 285

1 videos were side by side as they enter. As the video  
2 is played and recorded, you had a side-by-side view  
3 of them. I applied levels adjust. Camera 12,  
4 321.00255.

5 Subject leaves theater, enters hallway.  
6 Scaled video to project size. Subject walks to  
7 customer service desk. Am I going too fast?

8 THE COURT REPORTER: If you could slow down  
9 a little bit. Thank you.

10 THE WITNESS: Applied levels adjust,  
11 71.00250. Scaled video to project size.

12 Subject leaves counter walks through  
13 hallway outside theater and enters theater 10.  
14 Scaled video to project size.

15 Subject enters theater, Cameras 11 and 12  
16 side by side. Again, adjusted the levels adjust 12  
17 -- Camera 12, 321.00255. I applied FBI symbols,  
18 titles, black video transitions and exported out MOV  
19 H.264 30 frames a second, 1920 by 1080 pixels.  
20 BY MR. ESCOBAR:

21 Q Now, did you do in this first -- in this  
22 first analysis, did you do any comparison between the

Page 287

1 A The BEK TEK video had their's looped. So  
2 one versus forward, and it just looped back and  
3 forth. It portrayed what I think -- it's an old way  
4 of doing video enhancement in showing a very small  
5 clip. And the actions of that small clip, I think  
6 that it misrepresents what was actually going on.

7 Q How?

8 A Because unless you have seen the video in  
9 its totality in a very slowed down motion, it appears  
10 that the action in the video reverses versus going  
11 forward. It's a visual thing. After watching the  
12 video over and over and over again, if you don't know  
13 what you're seeing, I think -- I believe that you  
14 would see or have an opposite effect of what was  
15 going on in the video with the BEK TEK enhanced video  
16 versus what mine was. That's all.

17 Q So what was going on in the video that you  
18 enhanced versus what was going on in the video that  
19 -- BEK TEK?

20 A It's just motion, individuals moving.

21 Q So you have no idea what was going on?

22 A No.

Page 286

1 BEK TEK videos and the FBI videos?

2 A I reviewed the BEK TEK video. I saw that  
3 there was an examination or a video with movement of  
4 spectral highlight, and I did a side by side of what  
5 I did compared to what they did.

6 Q And why?

7 A Because I was asked to.

8 Q What differences did you notice?

9 A Just the looping versus the slow down  
10 motion of what I did.

11 Q The looping versus the slow down motion  
12 that you did?

13 A Yes.

14 Q And what were the differences?

15 A Just the visual, visual content. So both  
16 of them show exactly the same thing. Movement of the  
17 individuals within the video. The way that BEK TEK  
18 showed it and the way I showed it are different. It  
19 shows a little bit different action. All of the same  
20 video, the same movements. It's just portrayed a  
21 different way. That's all.

22 Q And how was it portrayed a different way?

Page 288

1 Q So how can you --

2 A I do have an idea. I have no opinion of  
3 what's going on.

4 Q You have no opinion?

5 A I have no opinion.

6 Q So since you have no opinion, how could you  
7 opine that it would distort your view of that image?

8 A Because as a forensic examiner, I believe  
9 that the analysis and the way that they produced that  
10 to show it visually leads in a different direction  
11 than would if you would play it in sync normally  
12 forward.

13 Q In what direction?

14 A Forward.

15 Q It leads you to reverse it?

16 A No. What I'm saying is that it appears  
17 that the individuals in there are reacting to  
18 something instead of following it forward. It looks  
19 like it's looped, and that's a portrayal of what  
20 their video enhancement to me is showing.

21 Q You formed an opinion that that was a  
22 process that they used for video enhancement. What



Page 289

1 gave you that opinion?

2 A Because I've used that same enhancement  
3 process years ago and found that that -- that  
4 particular enhancement process in this particular  
5 video with this amount of frames has an improper  
6 viewing capability.

7 Q Well, my question is: Why did you think  
8 that that was an enhancement process by them? Did  
9 you talk to them?

10 A No. They have their BEK TEK symbol on the  
11 front of the video.

12 Q Well, but how do you know what they were  
13 trying to portray?

14 A I don't.

15 Q So you assume that they were trying to  
16 portray something?

17 A They were visually showing the video in one  
18 way, and I showed it exactly the same way at a  
19 different format.

20 Q Okay. And so you used -- did you slow it  
21 down?

22 A I did.

Page 290

1 Q To what percentage?

2 A I'd have to look at the video. It's  
3 actually on the video. Let me look at my notes here.

4 Q Yeah.

5 A I actually don't have it written in my  
6 notes as far as the percentage. I think I have it on  
7 the video itself for the percentage. If I don't, I  
8 can get that. It's in my project settings.

9 Q Why would you not have it in your notes?

10 A Because I set it in my project. I can  
11 always refer back to my project settings.

12 Q Do you use the 25th percentile often?  
13 Slowing it down 25 percent?

14 A It depends on what's going on in the video.  
15 So depending on how the video is captured. So in  
16 this particular video, you're talking a range of  
17 recording speeds that differ. So the recording rate  
18 is -- there is no constant. So as far as 25 percent,  
19 50 percent, a hundred percent, it wouldn't make any  
20 difference.

21 Q Okay. And so you appear to also resize  
22 these images to 170 percent?

Page 291

1 A Uh-huh.

2 Q Why 170 percent?

3 A That showed the content in a visual light  
4 in which it did not degrade and pixelate the image  
5 too much. So I found that that percentage was  
6 acceptable in my eye.

7 Q Is that the percentage you always use?

8 A No.

9 Q You fluctuate that percentage?

10 A Again, I designed that particular  
11 percentage because --

12 Q For this image?

13 A For this image or this particular video.

14 Q Okay. Anything else you may have done  
15 during this first round of analysis?

16 A You mean apart from all of the other videos  
17 that I produced?

18 Q Yeah. I'm not saying you didn't do  
19 anything. I'm just saying this is all you did.

20 A That was the first one, and then that was  
21 the last one.

22 Q Okay. And so at the end of this day, you

Page 292

1 had absolutely no opinion concerning what was taking  
2 place in any of these particular videos; is that  
3 correct?

4 A I have no professional opinion that I am  
5 going to stipulate here as far as the actions of  
6 what's going on in that video. As I stated before --

7 Q What do you mean by "here"? I mean, do you  
8 get --

9 A No, I --

10 Q Do you get to do it somewhere else  
11 differently?

12 A No. I do not have a professional opinion  
13 as far as what's going on in this video. I will not  
14 testify to what's going on in this video as far as  
15 the actions of these individuals in this examination.

16 Q So that's not going to change when we go to  
17 court?

18 A What you see is what you get.

19 Q That's not my question. That's not going  
20 to change when --

21 A No.

22 Q -- you go to court?

Page 293

1 A No.  
2 Q That's going to be your --  
3 A For this particular exam, no.  
4 Q Okay. So what did you do next?  
5 A The next video was --  
6 Q Next request.  
7 A Oh, next request, sorry.  
8 Q Yeah, because you're all done, right? With  
9 the videos? Did you finish them all?  
10 A Did you want to go through all of them? We  
11 can.  
12 Q Well, no, not all of them.  
13 A We can.  
14 Q How many more do you have there?  
15 MR. MARTIN: He only went through one, so  
16 he's got thirteen more to do.  
17 THE WITNESS: Well, two, because we did  
18 the --  
19 BY MR. ESCOBAR:  
20 Q Yeah, we probably ought to. Let's go ahead  
21 and go through them and put them on the record, and  
22 we're done.

Page 294

1 A The reflective items video, so anything  
2 that I saw that was reflective tied to the movement  
3 of the subject, I sliced and put in line in a  
4 singular video. Do you want me to go through each  
5 one of those?  
6 Q Absolutely. Just say video one, video two,  
7 whatever markings you have there.  
8 A Subject and wife walk in with snacks,  
9 placed two timed video on two video tracks, cropped  
10 to the date and time, resized and centered, slowed  
11 both videos to 25 percent play speed.  
12 MR. MARTIN: Tony, slow down, please.  
13 A Sorry, my apologies. Let me start over.  
14 First video track was the subject and wife passed --  
15 walks past with the snacks. And I do have the file  
16 name. Do you want me to read the file name?  
17 Q Uh-huh.  
18 A Okay. 2014 0113130456. Subject and wife  
19 walk past with the snacks. Placed two video tracks  
20 -- or two videos on two videos tracks, cropped the  
21 top video to date/time frame, resized and centered,  
22 slowed both videos down to 25 percent play speed,

Page 295

1 applied VA transform, resized to 180 percent.  
2 Tracked right shoe of subject that reflects.  
3 Camera 11 theater --  
4 Q Now, you said reflects.  
5 A Yes, sir.  
6 Q How do you know it reflects?  
7 A Visually. It was a shoe.  
8 Q Well, what on the shoe reflects?  
9 MR. MARTIN: Richard, Richard (indicating.)  
10 Thank you.  
11 BY MR. ESCOBAR:  
12 Q What on the shoe reflects?  
13 A So these are notes. They will not be  
14 discerned in court. It is a process video that I  
15 did. And when I did this, it was looking at  
16 specifics of the video.  
17 Q How do you determine reflective versus  
18 emitting?  
19 A One is powered and one is passive.  
20 Q Yeah, but how do you determine that on the  
21 film?  
22 A I don't. I didn't.

Page 296

1 Q Is there some scientific process to do  
2 that?  
3 A No, it was just a descriptive adjective  
4 that I put in my notes so I can understand what I'm  
5 doing in which the video I was processing.  
6 Q Well, but you would agree that that's an  
7 opinion that it was reflective?  
8 A Yes.  
9 Q So where did you get that opinion from?  
10 A Visually.  
11 Q A lay opinion?  
12 A Yeah.  
13 Q Not a scientific opinion?  
14 A No.  
15 Q Okay. Go ahead.  
16 A Again, I have no -- beyond a layperson's  
17 visual, that's what it was.  
18 Q Okay.  
19 A Where was I at? Camera 11 theater:  
20 Subject sitting in chair, crossed legs. Placed two  
21 videos on two tracks. Cropped top video to date/time  
22 and resized and centered. Slowed both videos to

1 25 percent play speed, apply VA transform, resize to  
2 210 percent to area of subject and reflection portion  
3 of shoe. Applied color pass, black and white video.

4 Camera 12 theater: Subject gets up and  
5 moves across the street (sic) to exit theater, placed  
6 two time video on two video tracks. Cropped top  
7 video, date/time frame, resized and centered, slowed  
8 both videos at 25 percent play speed, applied levels  
9 321.00255, VA transform, resized to 210 percent to  
10 area of subject and reflection, portion of shoe,  
11 applied color pass black and white video.

12 Entrance on hallway outside theater:  
13 Subject returns from customer service. Placed two  
14 videos on two video tracks. Cropped top video to  
15 date/time frame, resized and centered. Slowed both  
16 videos to 25 percent play speed. VA -- applied VA  
17 transform, resized to 190 percent to area of subject  
18 and reflection portion of shoe.

19 Camera 11 theater: Subject returns to  
20 chair from exterior of theater, placed two times  
21 videos onto video tracks, cropped top video to  
22 date/time and frame, resized and centered, slowed

1 that's where I can keep these things going.

2 Date and time, resized and centered, slowed  
3 both videos to 25 percent play speed. Applied VA  
4 transform, resized to 200 percent to area of subject  
5 and reflection portion of shoe. Applied color pass,  
6 black and white video.

7 Camera 11 theater: Subject is uncrossing  
8 right leg, altercation --

9 Q Same answer for that?

10 A It is.

11 Q You have no scientific basis to --

12 A It's a layperson --

13 Q -- opine that?

14 A It's a layperson's review of the video as  
15 I'm putting it together, as I process, and I have no  
16 opinions of what's going on.

17 Q Okay.

18 A Camera 11 theater: Subject to uncross  
19 right leg, altercation with victim, shooting occurs.  
20 Placed two times video on two video tracks. Cropped  
21 top video to date/time frame, resized and centered.  
22 Slowed both videos to 25 percent play speed, applied

1 both videos to 25 percent play speed. VA  
2 transform -- apply VA transform, resize 200 percent  
3 to area of subject and reflection portion of shoe.  
4 Applied color pass, black and white video.

5 Camera 11 theater: Subject to chair,  
6 uncrossed leg.

7 Q Uncrossed leg? Who told you about an  
8 uncrossed leg?

9 A This was my visual effects as I'm going  
10 through the video to explain it to myself.

11 Q How did you come and opine to --

12 A It's a visual effect that I'm using to  
13 determine what's going on in the video so I know  
14 where I'm cutting this through.

15 Q Well, but how can you do that when -- do  
16 you have any scientific process to determine when  
17 someone is crossing their leg?

18 A It was a visual effect that I was using to  
19 track these individuals in the video, and that's all.

20 Q You mean a nonscientific?

21 A Correct. Layperson. What you see is what  
22 I see. It was only an adjective, only a statement,

1 VA transform, resized to 200 percent to area of  
2 subject reflection portion of the shoe, applied  
3 shadow/highlights twenty-five zero, applied color  
4 pass, black and white video, added FBI symbol,  
5 titles, black video transition, exported MOV H.264,  
6 30 frames a second, 1920 by 1080 pixels.

7 Q All done?

8 A On that one. Do you want me to keep going?

9 Q Okay. Yeah, we're going to keep going.  
10 But you would agree that in your line of work that it  
11 is extremely dangerous to form any opinions unless  
12 there's a scientific basis for it?

13 A I never gave an opinion.

14 Q Well, you've given some opinions to  
15 yourself in your notes.

16 A This is just a relay of what's going on so  
17 I can build the video.

18 Q It's an opinion. If you're looking at  
19 something and you perceive that something is  
20 happening, you've opined for yourself that this was  
21 happening.

22 A I'm not defining anything that's going on.

Page 301

1 I do not have an opinion as to what's going on and  
2 will not have an opinion in court. This is nothing  
3 more than processing the video.

4 Q Why don't you define what you're going to  
5 be enhancing by timestamp or some other benign marker  
6 within the video? Why are you having to opine from a  
7 layman's perspective as to anything that's happening  
8 in the video?

9 A Because this is the way I processed it.

10 Q But you could have done it by the timestamp  
11 or -- correct?

12 A I could have done it a thousand different  
13 ways. This is the way that I chose.

14 Q But you would agree that it is certainly  
15 extremely dangerous to opine when you don't have a  
16 scientific basis for it, correct?

17 A I haven't opined anything.

18 Q You opined it in your notes.

19 A I gave a general assumption of what's going  
20 on in the visual effect, as would anybody else that  
21 watches the video. I have not written this in any  
22 one of the reports. I have not defined this as far

Page 303

1 able to process or produce the same enhancements that  
2 I've done utilizing my notes.

3 Q Let's go ahead and finish your processing  
4 of the items.

5 A Let's see here. Camera 11 and Camera 12:  
6 Full frame. Blackmagic project, 1920 by 1080,  
7 progressive, 30 frames a second, uncompressed. I  
8 used the following videos to use: Theater Cameras 11  
9 and 12. Utilized videos with date/time and frame  
10 number. Theater 11 and 12, placed two times videos  
11 on both tracks. Cropped to date/time. Video resized  
12 and centered. I placed Cameras 11 and 12 side by  
13 side onto the timeline. Synced date and time frame  
14 with playback. Blank areas with no recorded video,  
15 placed title, screening stating no video -- or video  
16 not recorded. Applied levels on Camera 12, which  
17 would be 321.00255 to equal brightness contrast in  
18 the cameras. Added FBI symbols, titles, black video  
19 transitions. Exported out MOV H.264, 30 frames a  
20 second, 1920 by 1080 pixels. Okay?

21 Q All done?

22 A For that one. Theater 11 and 12: Resized

Page 302

1 as testimony. This is nothing more than a visual  
2 effect of what I did for the production of the video.  
3 My words are just as simple as anybody else's.  
4 That's as far as it goes.

5 Q You don't think that that process could  
6 certainly influence later opinions that you may form?  
7 The fact that you've formed -- at least for your note  
8 purposes -- an unscientific opinion concerning what  
9 was taking place? You don't think that that could  
10 certainly influence you later on when you're having  
11 to form other opinions?

12 A No. I think my visual effect is very  
13 simple. The -- any opinion that I've based as far as  
14 anything further that I've done has been strictly  
15 scientific. In the end, I haven't made any opinions  
16 based on any reflection basis in this examination, in  
17 report or otherwise. And this note structure is  
18 nothing more than building a simple enhancement from  
19 a video. What is defined in this is the only way to  
20 -- well, excuse me. The way that I use to  
21 reconstruct this, and any examiner that has the same  
22 training, same basis and the same background would be

Page 304

1 black and white, 1/13/2014, 1314-13 to 26.  
2 Blackmagic video project, 1920 by 1080, progressive,  
3 30 frames a second, uncompressed. Used the following  
4 videos for use in Theater 11 and 12: Utilized videos  
5 with date/time and frame number. Theater Camera 11  
6 and 12, again, placed them on the timeline. Dual  
7 video track. Cropped date and time, resized and  
8 centered. Placed Cameras 11 and 12 side by side on  
9 the video timeline. Synced date and time frame back  
10 with playback. Blank areas with no recorded video.  
11 Placed title, screen stating video not recorded.  
12 Applied levels on Camera 12, 321.00255 to equal  
13 brightness and contrast between the cameras. Applied  
14 shadows and highlights on Camera 11 and 12,  
15 thirty-five zero. Applied VA transform, resized  
16 Camera 11 to 170 percent. Applied VA transform,  
17 resized Camera 12 to 160 percent. Added FBI symbol,  
18 titles, black video transitions. And, again,  
19 exported out MOV H.264, 30 frames a second, 1920 by  
20 1080 pixels.

21 Next video being the theater shooting,  
22 Cameras 11 and 12: Resized, black and white,

Page 305

1 1/13/2014, 13:26:24 to 13:26:51. Same project, 1920  
2 by 1080. I used the following videos: Theater  
3 Cameras 11 and 12, utilized videos with date, time  
4 and frame number. Placed both video tracks -- or  
5 videos on two video tracks. Again, cropped the date  
6 and time and centered it up. Placed Camera 11 and 12  
7 side by side. Blank areas, again, with the no  
8 recorded video. Applied levels on Camera 12, in  
9 which the levels would be 321.00255 to equal  
10 brightness and contrast between the cameras.  
11 Applied shadows and highlights. On Camera 11:  
12 Thirty-five zero. Applied VA transform. Resized  
13 Camera 11 to 170 percent. Resized VA transform to  
14 Camera 12, 160 percent. Reduced play speed to  
15 25 percent. Added FBI symbols, titles, black video  
16 in transitions. Exported out MOV 35 -- or 30 frames  
17 a second, 1920 by 1080.

18 Q Okay. Next?

19 A Theater Camera 11: Full frame, black and  
20 white. 1/13/2014, 13:14 to 13:26, same Blackmagic  
21 project. Copied Camera 11 on a timeline, resized to  
22 project settings. Placed second video onto second

Page 306

1 timeline. Cropped date and time, sized and centered.  
2 Applied shadow/highlight thirty-five zero. Applied  
3 color pass, black and white. Added FBI symbol,  
4 titles, black and white video transitions. Exported  
5 out MOV H.264, 30 frames a second 1920 by 1080.

6 Did the exact same for theater Camera 11.  
7 Resized, black and white, 1/13/2014, 13:14 to 13:26.  
8 Blackmagic project 1920 by 1080. Same as before,  
9 copied Camera 11 onto video timeline. Resized the  
10 project settings, placed second video onto second  
11 timeline. Again, cropped date/time, frame to size  
12 and centered. Applied shadows/highlights thirty-five  
13 zero. Applied color pass, black and white video.  
14 Applied VA transform. Resized to 170 percent. Added  
15 FBI symbols, titles, black and -- black video  
16 transitions. Exported out H.264 MOV, 30 frames a  
17 second, 1920 by 1080. Keep going?

18 Q You've only got two more pages.

19 A Three more. Theater 11 camera: Full  
20 frame, black and white, 1/13/2014, 13:14 to 13:26.  
21 Copied Camera 11 onto the timeline, resized project  
22 size, second timeline as well. Cropped the date and

Page 307

1 time, frame sized and centered. Applied  
2 shadows/highlights thirty-five zero. Applied color  
3 pass black and white. Added FBI symbol, titles,  
4 black video transitions. Exported out MOV H.264, 30  
5 frames a second, 1920 by 1080 pixels.

6 Theater Camera 11: Resized black and white  
7 1/13/2014, 13:14 to 13:26. Same Adobe project.  
8 Copied Camera 11 onto timeline, resized to project  
9 settings, placed second video onto second timeline.  
10 Cropped date/time, frame sized and centered. Applied  
11 shadows and highlights thirty-five zero. Applied  
12 color pass, black and white video. Applied VA  
13 transform. Resized to 170 percent. Added the FBI  
14 symbols, titles, black video transitions. Exported  
15 out MOV H.264, 30 frames a second, 1920 by 1080  
16 pixels.

17 Theater Camera 12: Full frame, black and  
18 white, 1/13/2014, 13:14 to 13:26. Copied Camera 12  
19 onto the timeline. Same Adobe project. Resized the  
20 project settings, placed the second video on a  
21 timeline. Cropped date/time, frame sized and  
22 centered. Applied shadows/highlights thirty-five

Page 308

1 zero. Color pass to black and white video. Added  
2 FBI symbols, titles, black video transitions.  
3 Exported out MOV H.264, 30 frames a second, 1920 by  
4 1080.

5 Camera 12: Resize, black and white,  
6 1/13/2014, 13:14 to 13:26, same Blackmagic project.  
7 Copied Camera 12 onto timeline. Resized to project,  
8 placed second video onto second timeline. Cropped  
9 date/time, frame sized and centered. Again, applied  
10 shadows/highlights, twenty-five zero. Applied levels  
11 321.00255. Applied color pass, black and white  
12 video. Applied VA transform, resized to 160 percent.  
13 Added FBI symbols, titles, black video transitions.  
14 Exported out again MOV H.264, 30 frames a second,  
15 1920 by 1080.

16 So the next two cameras, which would be  
17 Camera 11 and Camera 12, that is the realtime video,  
18 so that is the blue video that I exported out. It's  
19 going to be the same project, 1920 by 1080 for both  
20 of them. Imported in both of those cameras onto  
21 separate timelines. Applied shadows and highlights  
22 to Camera 11. Applied titles stating no recorded

Page 309

1 video on blue portions of video. Date/time continues  
2 to count without video recorded. Added FBI symbols,  
3 titles, black video transitions. Exported out MOV  
4 H.264, 30 frames a second, 1920 by 1080.  
5 I did the exact same thing for Camera 12,  
6 if that's okay.  
7 Q (Nods head.)  
8 A Although, on Camera 12, applied shadows and  
9 highlights fifteen zero, and levels adjust 321.00255.  
10 It's just a minor adjustment.  
11 Last but not least, Theater Camera 11 and  
12 12: Full frame, realtime 13 -- or 1/13/2014 to --  
13 13:14 to 13:26, 1920 by 1080, progressive, 30 frames  
14 a second. Copied Cameras 11 and 12. Basically set  
15 them side by side, let them run consecutively.  
16 Camera 11, applied shadows and highlights thirty-five  
17 zero. Applied title stating no recorded video when  
18 those blue portions come up. Same with Camera 12,  
19 applied shadows and highlights fifteen zero. Applied  
20 levels adjustment 321.00255. Added no recorded video  
21 when there was no recorded video. Added the FBI  
22 symbols, titles, black video transitions. Exported

Page 310

1 out MOV H.264, 30 frames a second, 1920 by 1080  
2 pixels. And those are your videos, sir.  
3 Q Okay. Now, in that whole process the  
4 machinery that you were using, does it allow you for  
5 any better quality of viewing other than what you've  
6 seen here in the depositions through a computer that  
7 we've used?  
8 A Are you asking about other software?  
9 Q Anything that you may have done there at  
10 your lab that gave you a better idea of what was  
11 taking place either within these images or within  
12 these videos, other than what we've just played here  
13 in a computer?  
14 A I haven't seen any. If there's some out  
15 there. I haven't reviewed it. I haven't used it. I  
16 believe that I have consistently made this  
17 enhancement to the best of its capability. I believe  
18 that all of the information as provided is accurate,  
19 and the visual effects of what we recorded is seen as  
20 is.  
21 Q And so what you saw here today on my laptop  
22 is what you saw in your lab?

Page 311

1 A Yes, sir.  
2 Q No difference?  
3 A No.  
4 Q Okay.  
5 A Although, I mean, they're much smaller, of  
6 course. The original videos are a whole lot smaller,  
7 so yeah.  
8 Q Does that help you at all with clarity or  
9 identifying anything on the video itself?  
10 A Size?  
11 Q Yes.  
12 A No.  
13 Q Okay. So you finished this project, this  
14 initial project for Mr. Martin, and at the end of the  
15 project you couldn't tell him what was taking place  
16 in any of the videos? Your opinion, you couldn't  
17 give him an opinion?  
18 A I have no opinion as to the action of  
19 what's going on in the videos, no.  
20 Q Do you have an opinion about anything in  
21 reference to the videos? Not even the actions.  
22 Anything else?

Page 312

1 A In this examination the only thing that I  
2 stated was the authenticity between the inner videos,  
3 and that was the extent of it.  
4 Q Your opinion is that they are authentic?  
5 A My opinion is the ones that I reviewed  
6 enter, within, are the same.  
7 Q The ones you reviewed?  
8 A Yes.  
9 Q Okay. But do you have an opinion as to the  
10 ones that may have come from the hard drive?  
11 A The ones that I have in the thumb drive and  
12 at least the --  
13 Q In your hard drive?  
14 A The hard drives that I received?  
15 Q Yes.  
16 A Yes.  
17 Q But there's another set of hard drives.  
18 A I can only discern what I've received.  
19 Q So you have no opinions as to --  
20 A No.  
21 Q -- those?  
22 A No.

Page 313

1 Q Okay. You send off the report?

2 A Uh-huh.

3 Q What happens now?

4 MR. MARTIN: Excuse me, we've been going  
5 for two-and-a-half hours, we're going on exam number  
6 two. Can we take a break?

7 THE WITNESS: That would be nice.

8 (Whereupon, the deposition recessed at 2:26  
9 p.m. and resumed at 2:37 p.m.)

10 BY MR. ESCOBAR:

11 Q Tell me what was your next -- you sent that  
12 all off?

13 A Uh-huh.

14 Q You're done with that first -- you sent  
15 that all off. You're ready now for your -- what's  
16 the next involvement that you had?

17 A The next one was -- let's see here if I  
18 recall. The prosecutor -- within some of my videos  
19 there were a couple of areas that I didn't put the no  
20 video recorded on there. So I had to adjust some of  
21 the videos to add that, and that was that.

22 Q That was it?

Page 314

1 A That was it.

2 Q What about your third?

3 A So I was asked on the third one --

4 Q Is that the October 25th request?

5 A Yes.

6 Q Okay. And that has to do with the spectral  
7 highlights; is that correct?

8 A Two things.

9 Q Go ahead.

10 A I'm sorry.

11 (Whereupon, Mr. Escobar and Mr. Michaels  
12 conferred.)

13 Q Do you want Exhibit 3? It's here. I  
14 promise you.

15 A That's fine. I have the report right here.

16 Q Here's three. Defense Exhibit Number 3,  
17 right?

18 A Uh-huh.

19 Q Okay. So how did this request come in?

20 A So there was a question -- two particular  
21 questions. The spectral highlight came back into  
22 play.

Page 315

1 Q Came back? I thought it was never in play.

2 A Other than the visual enhancement of  
3 collecting all of those into a single video in which  
4 a layperson could view, I was asked could I identify  
5 what the object was that was emanating and doing this  
6 white spot. I couldn't. I said but the only thing I  
7 really could do is go through and do a measurement of  
8 that light source and give an array of measurements  
9 -- a scientific measurement of that light source  
10 visually throughout that time period, several time  
11 periods that I've seen it, make measurements and  
12 apply that.

13 Q Okay.

14 A Which I did.

15 Q So I'm going to -- Mr. Michaels is going to  
16 take over spectral highlights and --

17 A And I was told during this examination or  
18 after I published it, it's not spec --

19 Q Did I say it right? Specular?

20 A Specular versus spectral. It was a wording  
21 thing.

22 BY MR. MICHAELS:

Page 316

1 Q So it sounds like you're reading my notes,  
2 because I saw that in the report it's referred to as  
3 specular.

4 A Yeah.

5 Q S-p-e-c-u-l-a-r.

6 A Yeah. So I guess the definition of  
7 specular and -- the other one.

8 MR. ESCOBAR: Spectral?

9 A Spectral is a little bit different. And I  
10 didn't catch that out. So I wrote the report after I  
11 produced these images. It's a verbiage -- or an  
12 adjective thing. I apologize. We just caught that  
13 not too long ago.

14 BY MR. MICHAELS:

15 Q What's a specular highlight?

16 A Specular highlight I guess is just the  
17 origination of what it is. So specular highlight is  
18 a visual, and I guess the other one -- I'd have to  
19 get the definitions. But someone smarter than me  
20 told me what the difference was.

21 Q So as you sit here, you can't give me the  
22 definition then of spectral highlight?



Page 317

1 A I'd have to look it up. It was an off  
2 adjective that was only caught after the fact.

3 Q So we can agree that you can't give a  
4 definition of what a spectral highlight is today?

5 A Today. I would have to look it up, yeah.

6 Q Now, what is the scientific basis, because  
7 in looking at the report -- and we'll go over it. It  
8 looks like there was a request made, and according to  
9 the report now we know that it's inaccurate where you  
10 write that it was a request for an analysis of  
11 specular highlights. It was a request for an  
12 analysis of spectral highlights, right?

13 A Is was specular. I'm reversing this. So  
14 it should have been specular versus spectral, which  
15 was on the original imagery that I sent out.

16 Q All right.

17 A So the report is correct. The imagery that  
18 I sent out originally that one word has to be  
19 changed.

20 Q Okay. The imagery says spectral.

21 A Spectral. And it should be specular.

22 Q And it should be specular?

Page 318

1 A Which is the -- correct in the report.

2 Q And when you were testifying today it  
3 seemed like you were using the word spectral.

4 A Specular. Sorry, it's a -- yeah, I  
5 referred back to something I shouldn't have been  
6 saying in the first place.

7 Q But at any rate, we can agree that at this  
8 point as you sit here, you don't know the definition  
9 of specular?

10 A At this point the defined definition, no.  
11 It's basically a levels highlight spot in that video,  
12 that imagery.

13 Q Okay. But, you know, as somebody who does  
14 analysis and somebody who's in a position with the  
15 FBI that requires a science degree, wouldn't you  
16 agree that it would be important to know the  
17 definition of a word that, number one, you're using?

18 A Uh-huh.

19 Q Right? Would you please answer yes or no  
20 for the court reporter?

21 A Yes.

22 Q And, number two, it would be important to

Page 319

1 know the definition so then that you can describe to  
2 somebody like me trying to understand what exactly it  
3 is you did, right?

4 A Yes.

5 Q Now, what -- tell me what the scientific  
6 basis is for an analysis of specular highlights?

7 A So all I was doing on this particular  
8 examination -- initially I was asked can I identify  
9 what this highlight is? Can I identify what it is?  
10 What's producing it? And in the end I could not.  
11 That was my opinion.

12 The basis for what I did was a measurement  
13 analysis of the center point of this highlight  
14 throughout every image that I could find in this  
15 particular area, and to give that relative  
16 measurement out, not only at this point, but in two  
17 other areas within the video.

18 Q Okay. But my question is really what, if  
19 any, scientific basis is there for that sort of  
20 analysis? What you're telling me kind of is you  
21 looked at it, you measured it, and then you're saying  
22 that they're sort of similar, these two spots; is

Page 320

1 that fair to say?

2 A Yeah, so -- and that's what we're doing.  
3 It's a measurement of a source in two time periods  
4 and taking the relative measurement and seeing what  
5 the difference or the similarities are. That's it.

6 Q So in terms of any specific scientific  
7 basis, you're not aware of any?

8 A No, it's a light measurement is what it is.  
9 That is the scientific basis. I took a measurement  
10 of that particular highlight at that particular time  
11 in that particular frame, using the Curves  
12 measurement and on the Curves basis of a highlight of  
13 pure black to pure white it gives a number basis of  
14 zero to two fifty-five, and that particular pixel at  
15 that time and space is that measurement.

16 Q Okay. So, again, in terms of any sort of  
17 equations, you know, I mean, the theory of  
18 relativity, there's an equation. There's an equation  
19 for gravity. There's an equation for light  
20 traveling. Is there any certain equation that you're  
21 aware of or any algorithm to determine how you get  
22 these numeric values for the light sources that



Page 321

1 you're comparing?

2 A Yeah, it's a measurement point of what that  
3 pixel value is at that frame at that time at that  
4 particular space.

5 Q And do you know how that measurement is  
6 derived?

7 A The measurement is derived from an analysis  
8 of pure black to pure white, so in an 8-bit system  
9 there are from pure black to pure white 255 shades,  
10 256 shades if you include pure white which is zero --  
11 or pure black which is zero. It is a measurement at  
12 that point. That is the scientific basis. That's  
13 why I did this analysis, because it is a scientific  
14 measurement of what that pixel is at that time at  
15 that -- in that -- in variation of pure black to pure  
16 white. That's it.

17 Q And are there any articles that you're  
18 aware of or any research to talk about how it was  
19 determined that this is, indeed, a valid measuring  
20 stick?

21 A If you look up a Curves analysis and pixel,  
22 I guess, measurement, you could very easily find one.

Page 322

1 I haven't looked up any. This is just a measurement  
2 of a pixel value in a frame. It's a very simple  
3 measurement. It can happen at any point in time.  
4 It's just one of the filters that are in there. It's  
5 a basic filter to be able to measure the -- basically  
6 the light effect of a single pixel.

7 Q So is this -- in other words, this is some  
8 sort of software that you use where you look at an  
9 image?

10 A This is Adobe Photoshop.

11 Q Okay.

12 A It's one of the filters in Adobe Photoshop.  
13 So if you look at the -- at all the black symbols in  
14 there, that's all the pixels of this entire image.  
15 That is the extreme.

16 If you're looking at -- the measurement  
17 down below is input. You're looking at pure black,  
18 bottom left to pure white, which is 255. Zero to two  
19 fifty-five. In the upper extreme, you're looking at  
20 brightness. It is a simple measurement of that  
21 measurement zero to two fifty-five and the brightness  
22 of that pixel at that point in time.

Page 323

1 It's not anything voodoo. It's not -- it  
2 is just a very simple mathematical computation of  
3 what that pixel value is in a light source. That's  
4 it.

5 Q Let me just look at this report here, and I  
6 think it's Exhibit Number 3. You have it in front of  
7 you there. The request is from Special Agent James  
8 Bucenell. You've mentioned him before earlier.

9 A Uh-huh.

10 Q That he requested through an electronic  
11 communication -- and do you recall what sort of  
12 communication? Was it e-mail? Was it --

13 A So we have a -- it's an FBI request service  
14 that we have for forensic examinations, and it gives  
15 us just information on the request.

16 Q Okay. And it's a request that the Forensic  
17 Audio, Video and Image Analysis Unit review the Q1  
18 media submitted under HQQ151001002 ADO, designated  
19 HQQ002792.

20 A Uh-huh.

21 Q Is that the external hard drive we've been  
22 talking about?

Page 324

1 A Yeah. So -- and, unfortunately, some of  
2 the evidence control capabilities that we have don't  
3 allow us to retag things over and over again or  
4 resubmit stuff under the same number. So it's  
5 basically the enhanced videos and the images that  
6 we've been working with. That's what I've done. I  
7 was using a file copy that I have on the original  
8 format that I used, and I just resubmitted it into  
9 this case.

10 Q Okay.

11 A So I didn't have to reprocess everything, I  
12 worked with what I had.

13 Q And the request is to determine the origin  
14 and brightness of questioned specular highlights.

15 A Uh-huh.

16 Q How would you determine the origin of a  
17 specular highlight?

18 A Visual effects, see if I can define where  
19 that source is coming from. So if I was asked to  
20 define the specular highlight of, say, what's on the  
21 wall over there, is it light? Is it not? Is it a  
22 sticker? That sort of thing.

Page 325

1 Q So the origin would be you looking at the  
2 video and trying to determine what that source of  
3 that light pixillation is coming from, correct?

4 A Yes. So you're looking at it, there's a  
5 highlight which is brighter than everything around  
6 it. I was asked can I define what that origin of  
7 that highlight is? And it was in the video.

8 Q Now, I know your mantra before was kind of  
9 what you see is what -- what I see is what you see.

10 A We're looking at a completely different  
11 examination right now. This is opinion-based. This  
12 is me asking -- and which I am allowed to give an  
13 opinion on what's going on in this video. Before it  
14 was just strictly an enhancement. I'm not active in  
15 what's going on in the video. What you see is what  
16 you get. I'm looking at a very defined piece of this  
17 video and -- during the request. So, again, apples  
18 and oranges. That's a video enhancement. This is an  
19 identification. Can I look at this and define this?

20 Q So if the video is the video and what you  
21 see is what I see, then explain to me how this is  
22 different? Is it different because somebody asked

Page 326

1 you to look for something?

2 A It's a completely different examination.  
3 If they're asking just for a specific enhancement, I  
4 am not allowed to give my opinion as far as what's  
5 going on in the video. If I am asked specifics in  
6 that request as far as what is this, and I can define  
7 this with an examination that I use within my  
8 standard operating procedures, I can do it.

9 Q So when Mr. Escobar pointed out certain  
10 items in the video and you're saying you have no  
11 opinion as to what that is, that wasn't a truthful  
12 testimony?

13 A It is. Again, that is that portion of the  
14 examination. I do not have an opinion as to the  
15 actions of what anything is going on in that video.  
16 You can see it as well as I can see it as well as the  
17 jury can see it. I am not going to sway the jury by  
18 defining the actions of what's going on in that  
19 video. They can watch the enhanced and the original  
20 versions exactly the same way as I can and come to a  
21 conclusion.

22 This conclusion will be beyond what a

Page 327

1 simple jury could do, by making measurements in this  
2 through my training, and that's what I have derived.

3 Q Okay. So tell me then what measurements  
4 you made to determine the origin of an item?

5 A The center pixel mass of this specular  
6 highlight as it moved through the video. And, again,  
7 I wasn't able to define that as pointed out into the  
8 opinions that I could not derive where that specular  
9 highlight was coming from or what it produced.

10 Q So in this case in terms of the origin of  
11 the specular highlight, you agree that's something  
12 that you cannot testify to?

13 A Yes, I cannot testify as to what is  
14 producing that spectral (sic) highlight.

15 Q Okay.

16 A Specular highlight.

17 Q In terms of the brightness of the  
18 questioned specular highlights, that's what you spoke  
19 to me a little while ago about regarding there's an a  
20 tool within Photoshop that allows you to measure the  
21 lightness, correct?

22 A Measure the -- yes.

Page 328

1 Q Brightness?

2 A Brightness of that particular spot that I  
3 placed a little spot dropper on, and it gives me a  
4 scientific number as to what that value is.

5 Q And because in this case what we were  
6 dealing with is a -- kind of a low resolution video.  
7 I think we can agree on that, correct?

8 A It is. And I made all of these  
9 measurements on the original imagery exported out  
10 uncompressed. That was the original measurement of  
11 what I was dealing with. So no enhancements, no  
12 nothing. It is straight out what was recorded.

13 Q In general terms -- and I looked at a  
14 couple of the images. I'm sure you've looked at a  
15 couple of images, too. When you look at these  
16 lighter pixels, because that's really with we're  
17 talking about here, correct?

18 A It's a -- yeah, it's a shade effect of it.  
19 So you're looking at something that's brighter in  
20 that area that is highlighted either reflecting or  
21 producing light at that point.

22 Q Okay. And when we talk about brighter,

Page 329

1 we're talking about lack of color in a black and  
2 white video?  
3 A We're not talking color. Color is  
4 completely different. Color is different to every  
5 person. We're looking here at shades. So you're  
6 looking at brightness, you're looking at shade  
7 levels. It is a shade of black to white and  
8 somewhere in between 255 different values, that value  
9 is a rate of 202. That's all it is.  
10 Q And if we look at the video in this  
11 particular case, each pixel is three by two, right?  
12 A Three by two?  
13 Q Three blocks by two?  
14 A So a pixel in and of itself is a singular  
15 block.  
16 Q Okay. So if we have an image that's three  
17 by two that appears to be a source of light, if you  
18 blow that up, if one of the pixels or two of the  
19 pixels is brighter than some of the others, where do  
20 you take the measurement from to determine what the  
21 value is in terms of spectral highlight? I'm sorry,  
22 now I'm saying it, too.

Page 330

1 MR. ESCOBAR: Specular.  
2 BY MR. MICHAELS:  
3 Q Specular highlight.  
4 A So what you're talking about is a 4 to 3  
5 aspect ratio or 2 to 3 aspect ratio. What I'm  
6 talking about is an actual pixel, which is the lowest  
7 element of any image. So I'm not going down to pixel  
8 on the left, pixel on the right, pixel up top, pixel  
9 down at the bottom. I'm talking center mass of that  
10 pixel value at the brightness point. So when I go  
11 around and I get to the center point and make my  
12 measurement, that's what it is.  
13 Q Okay. So your measurement then would be  
14 the brightest point?  
15 A In that center mass of that pixel, yes. Or  
16 the pixel group. So you're looking at this that --  
17 it covers more than one pixel. I am defining the  
18 center mass of what that is. Center mass, one pixel.  
19 That is the measurement.  
20 Q So you put the little cursor you have for  
21 the tool right in the middle of it?  
22 A Yes. I go into the pixel level, define

Page 331

1 where the center is, the brightest point is, and  
2 that's where the measurements were taken.  
3 Q And all your measurements you did in this  
4 particular case were before the enhanced --  
5 A Yes, there are --  
6 Q Before the enhancement?  
7 A -- raw videos. These are raw. I have done  
8 nothing to them. They are -- for this level here.  
9 Now, the visual effect that you have here is a very  
10 slight adjustment in, of course, levels or shadows  
11 and highlights so we can see it. And, of course, I  
12 put the arrow and the square so you can see where the  
13 defined place was that I took the measurement. So it  
14 was just a visual effect.  
15 Q And we're going to go over those charts,  
16 because those charts do seem to be kind of the  
17 enhanced version.  
18 A Uh-huh.  
19 Q In terms of the photograph that's attached  
20 to the chart, right?  
21 A Yes. So you can see it better.  
22 Q All right.

Page 332

1 A So these are enhanced because I have to get  
2 and I have to export it. I have to put it on here.  
3 The 320 by 240 I believe is what the measurement is.  
4 It would be just a minor little blip here. So I had  
5 to increase the size of that. The actual imagery,  
6 this viewing right here is the actual measurement on  
7 the original imagery that was exported out on that  
8 frame number at that particular time. Everything  
9 else is just a visual effect for derivative evidence.  
10 Q Okay. Just to make it easier to look at?  
11 Is that fair to say?  
12 A For us to see it. I mean, if I did  
13 original size on this thing, we'd be looking at a  
14 postage stamp.  
15 Q Well, but also to enlarge it, if you don't  
16 enhance it in some manner using what you used from  
17 Photoshop -- I think you described it as that smooth  
18 -- it smoothes out the image?  
19 A Again, in this particular one, that imagery  
20 was measured at the original size, level, limits,  
21 everything. So this (indicating document) is  
22 different. So if I were to measure this in this

Page 333

1 context, this measurement would be different --  
2 Q Right.  
3 A -- because I did some enhancement to it. I  
4 resized it for viewing aspects for us, for the jury,  
5 for everybody. But this original measurement is on  
6 the actual video -- or image that was exported out on  
7 this frame. What you see here is nothing more than a  
8 derivative visual so we can see it in a way that it's  
9 not so small or we'd all been wearing glasses.  
10 Q So it says to determine the origin, and you  
11 already said that that's something you cannot in this  
12 particular matter give an opinion on?  
13 A Uh-huh.  
14 Q Is that a yes?  
15 A Yes.  
16 Q Thank you.  
17 A Sorry. Yes. And I believe I stated that  
18 in my opinions portion of the report.  
19 Q And brightness of questioned specular  
20 highlights. So the brightness, you already said that  
21 using this tool within Photoshop you can have an  
22 opinion as to the brightness?

Page 334

1 A Yes, it's a derived measurement of that  
2 pixel at any one point in time during these frames.  
3 I found that pixel in all of these frames, made that  
4 measurement, placed the statement there, and then  
5 published this -- these examinations or this  
6 examination.  
7 Q So, therefore, the various values you could  
8 testify to -- this has a value of 150?  
9 A Correct.  
10 Q Whatever this item is, because I can't say  
11 what this item is?  
12 A Correct.  
13 Q Okay. And then further, a review was  
14 requested of the media to determine if Oulson is  
15 standing or sitting on Camera 11, and there's a time  
16 that they give you there at 13:26:25.379, correct?  
17 A Yes. So the center image right here  
18 (indicating.)  
19 Q All right. And the --  
20 A I believe that was your white blob that was  
21 down in the larger specular highlight right here  
22 (indicating.)

Page 335

1 MR. ESCOBAR: (Nods head.)  
2 BY MR. MICHAELS:  
3 Q So the long and the short of it is that you  
4 cannot give an opinion as to whether Mr. Oulson was  
5 standing or sitting.  
6 A Yes. So I was asked to do reverse  
7 projection, which is reverse projection  
8 photogrammetry that allows me to place objects back  
9 into space. With this we usually have -- at least in  
10 standing and sitting situations -- more of the body  
11 or the position of that individual in view of that  
12 camera so we could discern where the top of his head  
13 is, where the ground is, where the chair is, that  
14 sort of thing. At this point in that image for that  
15 particular person, we don't have enough of that  
16 person's body in play for me to make a discernable  
17 decision as to what his position of his body is.  
18 MR. ESCOBAR: Can I just correct you? What  
19 we were talking about was the white silhouette, not  
20 the white blob.  
21 THE WITNESS: White silhouette. Sorry.  
22 Yes. You pointed out --

Page 336

1 MR. ESCOBAR: Just so we know that the  
2 record is --  
3 THE WITNESS: White silhouette, yes.  
4 MR. ESCOBAR: Yeah.  
5 BY MR. MICHAELS:  
6 Q Okay. Now, let's talk about what you did  
7 then in terms of complying with this particular  
8 request. What did you do?  
9 A So I looked at doing reverse projection. I  
10 have looked at the video. I have looked at the  
11 images.  
12 Q Let's talk about reverse projection. Tell  
13 me how that works.  
14 A So reverse projection is the ability for me  
15 to take the original frame, tie into the CCTV system,  
16 closed-circuit television system, and overlay that  
17 frame onto the live video. I then align the camera  
18 to where it's identical to the original position of  
19 where it was during the recording, and then I can  
20 make measurement or put people or items back into  
21 that position that they were back during the active  
22 recording. It's like crime scene reproduction.

Page 337

1 So if I can get that camera back in the  
2 identical place, I now have a clean slate to where I  
3 can place everything back in. Usually we do these  
4 for bank robberies, for height determinations, as I  
5 said prior to, where I can see the ground to the top  
6 of the individual's head. If he's in an upright  
7 position, I place a height chart back in that  
8 position, and now I can measure from the top --  
9 approximate top of their head to the bottom of the  
10 floor and give you an approximation of how tall they  
11 are.

12 In this instance, we are looking at  
13 possibly recreating the position of where these  
14 individuals were during this altercation or during  
15 these time periods, questioned time periods. And we  
16 found that there was not enough information or  
17 information of this individual to define was he  
18 standing, sitting, kneeling, looking this way,  
19 looking that way, so we found that we would err on  
20 the side of caution and decide that this is not  
21 conducive to an examination and say that we cannot do  
22 the exam.

Page 338

1 Q Let me show you something that's -- it's --

2 A I have it.

3 Q -- Chart Number 2. Is that what you're  
4 looking at?

5 A Yeah, the one I produced.

6 MR. MICHAEL: Okay. Now, I will mark this  
7 as 4.

8 (Whereupon, Chart 2 was marked as  
9 Defendant's Exhibit Number 4 for  
10 identification.)

11 BY MR. MICHAELS:

12 Q It has Chart Number 2 on top. Is that what  
13 you were talking about to me just now?

14 A Yes. So this was the questioned image  
15 right here in the center (indicating.)

16 Q So now you're pointing in the center top?

17 A Correct. That would be 13:26:25.379.

18 Q Okay. Now, when you talk about a  
19 questioned image, tell me what you mean by that  
20 terminology?

21 A Questioned image is what other questions  
22 that we have that derive from this particular image.

Page 339

1 So that would be my definition as an FBI examiner  
2 what are the questions of this image? So my  
3 definition, we say that's the questioned image.  
4 That's the one that we're looking at.

5 Q Now, there is a red box in the right  
6 corner.

7 A Uh-huh.

8 Q If you ask me, it looks like some guy  
9 throwing a phone at Mr. Reeves, but you see what I  
10 see.

11 A Not so much, but okay.

12 MR. MARTIN: You are unbelievable.

13 BY MR. MICHAELS:

14 Q Let me ask you -- let me ask you -- well,  
15 that's the way I describe it in my notes.

16 MR. MARTIN: Well, let me describe what I'm  
17 looking at.

18 BY MR. MICHAELS:

19 Q Why don't you tell me what it is that drew  
20 your attention to that particular image and why are  
21 you using that image in terms of your analysis to see  
22 if you can determine whether Mr. Oulson was standing

Page 340

1 or sitting.

2 A So what I was asked to define was, was this  
3 individual -- if it is an individual -- sitting or  
4 standing in this particular frame? To do that we  
5 normally use reverse projection photogrammetry to  
6 place an individual back in the frame. At that point  
7 we decided we could not. So what I opted to do or  
8 attempted to do was do a side-by-side analysis of  
9 different frames of objects or individuals in that  
10 relative position to define, I guess, a relative  
11 height to that person to see if we could give it some  
12 sort of context of whether he was standing, sitting,  
13 kneeling, that sort of thing. And this is the object  
14 that I came up with.

15 You're defining the red box as a resized  
16 area of what I have down here in these three images  
17 (indicating) compared to the full image at the top.

18 Q And each image at the bottom is just an  
19 enlarged -- an enlarged image of the boxed area on  
20 the top photographs?

21 A Yeah.

22 Q Now, how do you determine that that's in

Page 341

1 the same area in each photograph? The image that you  
2 have boxed?

3 A Oh, I define the pixel content as far as  
4 resolution. Height, width. Define the height/width  
5 over here, height/width over here and height/width  
6 over here (indicating), and then brought them down.

7 Q So you used the XY axis?

8 A I used the defined box from the bottom  
9 right-hand corner to a pixel count right to left, up  
10 down. So basically the filter that I used on this  
11 image, this image and this image (indicating) were  
12 exactly the same to derive these three images to  
13 ensure that the resolution angle was correct. That's  
14 all.

15 Q Okay. Now, the individual on the left-hand  
16 side which appears to be somebody standing up and  
17 walking, you would agree with me on that?

18 A So with this video it appears that somebody  
19 -- this individual is walking back into the theater  
20 in the relative same position of where this  
21 interaction took place, I found that at that point it  
22 was an equal image, although one level up. And, if I

Page 342

1 recall, there was a slope to the floor. Still gives  
2 you a relative source of this individual is clearly  
3 standing and walking.

4 Q So that was my question. The comparison  
5 that you're making is of one individual that's  
6 standing up, one row higher --

7 A Yes.

8 Q -- than the person that you're looking at  
9 to try to determine whether they're standing or  
10 sitting?

11 A If this is a person and if this person is  
12 standing or sitting in that relative area as where he  
13 is, yes, he could be more than likely down below one  
14 level. And, yes, there is a height difference  
15 between the two. But I only did this as a  
16 side-by-side comparison to where you could visualize  
17 where this person is compared to where this person  
18 is, compared to where this person is at this  
19 timeframe in the same frame, in the same relative  
20 area.

21 Q And why was this timeframe chosen? This  
22 frame precedes the shooting? You can --

Page 343

1 A Yes.

2 Q -- agree with, right?

3 A So actions was not my determination. I  
4 really didn't care what was going on. I was looking  
5 at very specific -- is this person standing? Is this  
6 person sitting? What can I define of what's going on  
7 in this area? I didn't care what was going on over  
8 here, over here, over here (indicating.) I'm just  
9 looking at these three areas of what's going on in  
10 the time period to define this space. So is this  
11 person standing or sitting? I don't know, because I  
12 don't have enough information. However, I can define  
13 this person was standing.

14 Q The person on the left?

15 A Yes. And this person over here appears to  
16 be taller and probably a little bit further down, but  
17 at this point you can see that there is a relative  
18 difference in height once you place a line at the top  
19 of this person's head, or whatever it is, to this  
20 person (indicating.) That's it.

21 Q And we can agree that the image that you're  
22 using for comparison -- the middle one isn't very

Page 344

1 well defined. In fact, you're saying if that is a  
2 person's head?

3 A Yeah, I can't prove if that is a person, if  
4 he's leaning back. It is -- now, when you take it  
5 away from the imagery into a video, then the  
6 layperson can see or define what that could be.

7 Q And make up their own mind?

8 A Yes.

9 Q But that middle -- I'll go over here so the  
10 court reporter can hear you better. So that middle  
11 image -- in choosing that specific frame --

12 A Uh-huh.

13 Q -- to compare, did anybody tell you, hey,  
14 we want to look at this particular frame this  
15 particular time, or did you just choose that out of  
16 the air?

17 A I was asked at this time period, basically  
18 this timeframe, which happened to coincide with this  
19 frame number, is this person sitting or standing?

20 Q Okay.

21 A That's what I was asked.

22 Q All right. So --



Page 345

1 A So this was the only thing that I could  
2 conceivably come up with that you could -- a  
3 layperson could understand. Is this person sitting  
4 or standing? And the only way you do that within the  
5 video context of seeing these images, what's going on  
6 at the same period in the same area, is this person  
7 standing or sitting? Well, no, he's walking in. So  
8 you could define in the same area this person to this  
9 person. Is he standing, or is he sitting? I don't  
10 know how tall they are. I've never been told how  
11 tall they are. Relative height, this person is not  
12 as tall as this person or anywhere close at this  
13 level. A layperson can see that, visualize it and  
14 say, yes, that person is significantly taller than  
15 whatever or whoever this is. That's it.

16 Q In determining identification of an  
17 individual in terms of height -- because you talked  
18 about that's one of the things you do, for instance,  
19 in a bank robbery, right?

20 A It is.

21 Q If somebody is standing on a step, that  
22 would be important for you to know to try to get what

Page 346

1 the person's height is, correct?

2 A So I would not be able to discern a  
3 person's height if I do not have a clear view from  
4 the top of their head to the bottom of their feet or  
5 the floor, the feet meeting the floor, and being able  
6 to see their posture. So in this sense here, I could  
7 be leaning back (indicating.) I could be leaning  
8 this way (indicating.) I can be leaning forward. I  
9 don't know, because I don't have enough information.  
10 But when you compare this individual however --

11 Q The middle individual?

12 A However tall he is or short he is, when  
13 compared to the individual on the left and the  
14 individual on the right, you or any person as a  
15 layperson can say this is taller, the measurement  
16 height here is different than this person. That's  
17 all.

18 Q But you're saying the person on the left is  
19 on the level above --

20 A It is.

21 Q -- where the target image is in the middle?

22 A Yes.

Page 347

1 Q And you don't know how high that step is?

2 A I have never been there. I do know that  
3 there is a height difference. I've been told that  
4 there is a height difference of a slope, but as far  
5 as --

6 Q You don't know what that is, though?

7 A I do not. That's why I did not make a  
8 determination whether this individual was standing,  
9 sitting, leaning or anything. I just --

10 Q And you don't know how tall Mr. Oulson is?

11 A I don't.

12 Q And you don't really know how these seats  
13 lean or move or anything else, correct?

14 A I don't. I have never been in the theater.

15 Q And so the purpose of --

16 A Excuse me. I'm sorry. I do recall that  
17 the prosecutor did say that it leaned back about four  
18 inches. I think it was four inches. But that was a  
19 distance conversation. Again, it doesn't give me  
20 anything different in this analysis other than this  
21 person in this position relative to this person,  
22 relative to this person in that area.

Page 348

1 Q All right. So if you were to be given  
2 those measurements -- for instance, the height of the  
3 step or how tall the individuals involved are, would  
4 that change your opinion at all?

5 A No, because I do not have the capability of  
6 defining where he is as far as sitting, leaning.  
7 There's not enough information for me to say is he  
8 leaning backwards? Is he kneeling? Is he two-foot  
9 tall? Three-foot tall? I don't know. So that's why  
10 I decided that we were not going to do the reverse  
11 projection. I attempted to do this. I produced the  
12 chart. And my answer is I have no opinion, because I  
13 don't have enough information.

14 Q Now, before you produced the chart, you  
15 were able to see that you don't have enough  
16 information. You would be able to tell that you  
17 couldn't come to any kind of conclusion or give an  
18 opinion, right? Before you made the chart?

19 A No. During the chart, and then I do an  
20 analysis with other examiners. We had a meeting for  
21 several hours on this case to try and attempt to  
22 define what was going on. My time as an examiner I

1 try and produce anything and everything I can  
2 possibly think of. This is one of the examinations  
3 and the productions that I did. It is here, and for  
4 what it's worth, this is what I've done.

5 Q Okay. So you can agree this isn't really  
6 of any value?

7 A Depends on -- depends on who you look at.  
8 I mean, again, I have set it up for the layperson to  
9 do a comparison between three frames, three objects  
10 in the frame in a relative area. How they came up  
11 with is this person sitting or standing is up to  
12 them. As a scientist, as the ability for me to make  
13 true measurements, I don't have enough information.  
14 But a layperson can sit there and make their own  
15 determination. That's why the chart was produced.

16 MR. ESCOBAR: Can I ask a question?  
17 BY MR. ESCOBAR:

18 Q Rick Escobar, for purposes of the record.  
19 What's your definition of standing?

20 A Standing is erect from the top to the  
21 bottom in an upright position.

22 Q Completely straight? Upright?

1 A For measurement purposes, yes.

2 Q Well, just for purposes of the record, am I  
3 standing, and I've just bent the upper portion of my  
4 body towards the ground (indicating)?

5 A To me standing is anything other than  
6 sitting when you're in an upright position.

7 Q So the lower that my chest goes to the  
8 floor, that's standing --

9 A Now you're -- now defined as bent over for  
10 me.

11 Q Oh, so that's bent over (indicating)?

12 A Uh-huh.

13 Q Okay. So how do you determine bent over  
14 versus standing upright?

15 A I don't. I don't. That's why I didn't do  
16 the examination. There's not enough information for  
17 me to do it. I don't do these things in relative  
18 terms of scientific examination, with the exception  
19 of height determinations that will allow me to make  
20 a measurement. We examined this to do a reverse  
21 projection, to attempt to do it and found that there  
22 was not enough information to do a reverse

1 projection; did the side-by-side comparison, and,  
2 again, determined that there was not information for  
3 me to make a scientific definition of whether this  
4 person was standing, sit, leaning, kneeling or  
5 anything, and this is what was produced.

6 Q But the individual that you see on the very  
7 left bottom of that Chart Number 2, you've defined  
8 that individual as standing?

9 A I defined that individual as walking into  
10 the area in which he was in an upright position.

11 Q Okay. Was there any contour to his body at  
12 all?

13 A He walked.

14 Q Well, that's not my question. I mean, you  
15 indicated already he walked.

16 A Uh-huh.

17 Q Was there any contour to his body? Was he  
18 completely erect? Do you know what degree -- did you  
19 try to measure his degree of contour of any sort?

20 A No. No, that was not my intent. My intent  
21 was only to see whether that person was in an upright  
22 area, and that was the only time that I could find an

1 individual that appeared to be standing, walking, in  
2 an upright position in that area to allow me to do a  
3 side-by-side comparison.

4 Q Let me ask you another question here. You  
5 said that on the specular highlights that there is a  
6 software that is giving you that calculation --

7 A Yes.

8 Q -- of the brightness?

9 A Yes. Adobe Photoshop has what they call a  
10 Curves measurement in which I can define a particular  
11 pixel and allow me to make a singular measurement of  
12 that pixel brightness, and then a measurement of zero  
13 to two fifty-five.

14 Q And so here, the item that you were trying  
15 to measure was what item within the photo?

16 A And that's what I defined is I could not  
17 find exactly what was producing it.

18 Q Well, I realize it, but you've got a pixel  
19 count of that item, correct?

20 A Uh-huh.

21 Q What was the pixel count?

22 A 320 by 240, which is the original --



Page 353

1 Q No, no, I'm talking about the number of  
2 pixel within that particular one.

3 A That is the one measurement that I  
4 measured --

5 Q Well, I realize it. But was that -- did  
6 that item -- was just that one pixel? Or was it made  
7 up of three pixels or ten pixels or twelve pixels?

8 A I didn't make that -- I didn't make that  
9 analysis.

10 Q Why not?

11 A Because I made a measurement analysis. I  
12 don't have the ability of making a measurement over a  
13 multitude of pixels. Only one.

14 Q You can't look at a dot on an image and  
15 determine -- for example, we're talking about a dot  
16 on the image (indicating.)

17 A Right.

18 Q That dot right there that we look on Chart  
19 Number 2.

20 A Right.

21 Q You can't look at that dot and say -- pull  
22 up the pixel graph and say, Oh, I see where that dot

Page 355

1 I did a singular measurement on that.

2 Q Well, but if you're wanting to compare one  
3 object to another object, why not count the pixels of  
4 both objects?

5 A I could have counted the pixels of every  
6 pixel in every chair, but I didn't.

7 Q That's not my question. Why wouldn't you  
8 count the pixels of both objects? Would you expect  
9 them to be different?

10 A I wasn't looking at the size or shape of  
11 it. I was looking at a particular measurement of  
12 which I could measure. That's what I did. There's  
13 multiple --

14 Q And so which pixel did you actually pick in  
15 order to measure the brightness? Because if you have  
16 three pixels by two pixels, right? It gives you a  
17 count of pixels. So did you -- which pixel did you  
18 use for your measurement of the brightness in that  
19 particular object?

20 A I think I answered that. I looked at the  
21 center mass of that particular object, found the  
22 brightest in the center, and that's what I chose.

Page 354

1 -- that white dot is, and I can see that that dot  
2 measures one, two, three pixels by one, two pixels?

3 A I didn't say I couldn't. I said I didn't.

4 Q Why?

5 A Because I didn't. I took a measurement. I  
6 didn't take a measurement count.

7 Q Okay. And so what was the measurement?

8 A The amount is right there (indicating.)

9 Q Well, what was -- no, not the output of the  
10 light. I want the measurement of -- was it a  
11 rectangle? What if a rectangle in pixels? Was it a  
12 square in pixels?

13 A I think I just answered that, stating that  
14 I did not do the pixel count. As far as the  
15 surrounding pixels of that highlight, I took the  
16 center brightest pixel of that specular highlight.

17 Q So you don't even know the pixel count of  
18 that circular white object or that object that we're  
19 calling a circle, but we don't even know if it's a  
20 circle, right?

21 A As I said before, I did not do that  
22 particular portion of the exam. It wasn't asked for.

Page 356

1 Q But center mass doesn't tell you which  
2 pixel, correct?

3 A It's the center mass. I can go back and  
4 reproduce the 202 on that particular image.

5 Q You could have gone through your X and Y  
6 coordinates, right? And you could have actually  
7 defined what pixel you actually used for us, right?

8 A I could have defined a lot of things, but I  
9 chose to do it this way. This is the measurement  
10 that I chose, and this is what it shows.

11 Q Is there any reason why you didn't define  
12 the actual pixel that you were measuring by the X and  
13 Y coordinates?

14 A No.

15 Q You'd never do it that way?

16 A I have not done it that way. This is --

17 Q Ever?

18 A -- the way I did it.

19 Q You've never done it that way?

20 A No.

21 Q Okay. And you've never not documented that  
22 in that fashion?

1 A No, I didn't make that measurement. I  
2 didn't make that analysis. I made a simple  
3 measurement analysis of the brightness of the center  
4 mass of that object.

5 Q And do you know how that measurement is  
6 done? Is it another algorithm?

7 A It is a measurement of the pixel value of  
8 that center pixel from a zero to two fifty-five.

9 Yes, it is a Photoshop algorithm that --

10 Q Do you know how that works?

11 A No, I don't. I'm not an engineer. I'm not  
12 a computer engineer. This, however, is throughout  
13 multiple different platforms. Same stuff.

14 Q Well, did you try to use something other  
15 than this Adobe --

16 A No.

17 Q -- product in order to try to measure that?

18 A No, I made the measurement in Adobe  
19 Photoshop.

20 Q But you could do it with a variety of ones  
21 and check one against the other, right?

22 A I didn't.

1 Q And so -- have you ever done that?

2 A Not in this examination, no.

3 MR. ESCOBAR: Okay. Go ahead.

4 MR. MICHAELS: Let's look at Chart 1. I've  
5 marked it as Exhibit Number 5.

6 (Whereupon, Chart 1 was marked as  
7 Defendant's Exhibit Number 5 for  
8 identification.)

9 BY MR. MICHAELS:

10 Q You have your own copy of it?

11 A I've got one. Oh, that chart. Chart 1.

12 Q Yeah, Chart 1. Yeah, we haven't gotten to  
13 this -- the specular highlights yet.

14 A Yes, sir.

15 Q Now, what are we looking at here? What's  
16 the purpose Chart 1?

17 A Chart 1 was just a side-by-side comparison  
18 of a multitude of images of my choosing, placed in  
19 the exact same height, width and alignment, top to  
20 bottom, side by side.

21 Q Okay. Now, your mission in this assignment  
22 in making Chart 1 was to look for spectral (sic)

1 highlights try to --

2 A No.

3 Q -- identify the origin?

4 A Nope.

5 Q And what is the purpose of Chart 1?

6 A Side-by-side comparison of two, four, six,  
7 eight, nine frames, say, in height, width, position  
8 on a single frame so a person can look at these and  
9 discern for themselves what was going on in that  
10 order.

11 Q So you have no opinion as to what's going  
12 on?

13 A I do not.

14 Q You have no opinion as to the source of any  
15 lightness in any of the images?

16 A It is just a side-by-side comparison chart  
17 just so a person can see these frames at these time  
18 periods during the action of this video. That's it.

19 Q No opinion as to what's going on as per  
20 your previous testimony?

21 A Not in this chart.

22 Q Okay. And so how did you come to make

1 Chart 1? Was it requested of you, or how did you do  
2 that? Why did you do that?

3 A Because it's what I did. It's one of the  
4 things that I decided to produce.

5 Q Okay. Well, you must have a purpose for  
6 what you do?

7 A It's just a side-by-side comparison of  
8 certain frames throughout this video to show an  
9 individual what's going on here, here, here and here  
10 (indicating) in a single output for a chart. That's  
11 all.

12 Q So there wasn't any sort of action you're  
13 focusing on? This is totally random?

14 A No. I mean, I chose areas of which  
15 individuals were moving here, and then placed it on a  
16 single chart. That's it. It's just a derivative  
17 visual of the same frames that we all have seen on a  
18 single chart. That's all.

19 MR. MICHAELS: Exhibit Number 6 is Chart 3.  
20 (Whereupon, Chart 3 was marked as  
21 Defendant's Exhibit Number 6 for  
22 identification.)

Page 361

1 BY MR. MICHAELS:  
2 Q This looks like a little bit more than just  
3 a random display.  
4 A Yes, this one is.  
5 Q Tell me what the purpose of Chart 3 is.  
6 A So this one, again, goes to the fact of  
7 whether this person is sitting or standing.  
8 Q The person in middle again?  
9 A Correct.  
10 Q Okay.  
11 A Yeah. Just defining the actions of what's  
12 going on in this frame, comparative to the position  
13 of this individual (indicating.) That's all.  
14 Q And so we have three pictures up top,  
15 smaller pictures?  
16 A You said Chart 3, right?  
17 Q Chart 3. And so the one on the left shows  
18 what appears to be some sort of -- it could be an  
19 arm, it could be an arm with something, and it looks  
20 like it's in the same general area as Chart Number 2  
21 that we looked at before. Right?  
22 A Uh-huh.

Page 362

1 Q So are we talking about the same area?  
2 A Yeah. So what it is is, again, I'm trying  
3 to discern whether this individual is sitting or  
4 standing with other -- or other items within that  
5 area. So I looked and there was an individual that  
6 appeared to be leaning forward in the same area, so I  
7 selected that frame, and then this person here  
8 (indicating) appeared to be standing in that same  
9 relative area, and did a comparison to where you see  
10 a specific difference of height or similarities  
11 between the three frames.  
12 Q And what are you looking for here? Whether  
13 or not Mr. Oulson is seated or standing or something  
14 else?  
15 A And that was the original request. Is this  
16 individual here sitting or standing?  
17 Q The one in the middle you're pointing to?  
18 A Yes. So it's just a continuation of this  
19 one (indicating.) Exactly the same thing, three  
20 different frames --  
21 Q A continuation of Chart 2?  
22 A Yeah.

Page 363

1 Q Now, on the images up top there looks like  
2 there's a yellow line running parallel to the bottom  
3 of the page.  
4 A Uh-huh.  
5 Q And what is the purpose of that yellow  
6 line?  
7 A To give a relative point of comparison at  
8 the top of this individual's head or whatever it is.  
9 Q Okay.  
10 A That's all.  
11 Q How is that affected, because we're not  
12 talking about things that are on a level plain here,  
13 obviously?  
14 A Correct, yep. And that was taken into  
15 consideration, and that's why I said that I could not  
16 make the identification of whether this person is  
17 sitting or standing. But it shows the analysis of  
18 what I attempted to do.  
19 Q Okay. So the image in the middle at the  
20 bottom, which is the same as the middle at the top,  
21 which is 13:26:25.379, that's the place -- that's the  
22 timestamp at the very bottom, correct?

Page 364

1 A Uh-huh.  
2 Q Is that a yes? I'm sorry.  
3 A Yes. I'm sorry. Yes.  
4 Q And that individual is the one that's a  
5 target of whether or not he is sitting or standing?  
6 That's the one you're looking to determine that -- to  
7 see if you can determine it, right?  
8 A Correct.  
9 Q And you can't from this photograph?  
10 (Whereupon, Mr. Escobar leaves the room.)  
11 A My analysis stated again, as I have said  
12 many times, I was not able to opine whether this  
13 person is standing or sitting with the information  
14 that was provided.  
15 Q Now, to the right of it there's an image  
16 found at 13:26:35.812, and down below there is a  
17 cropped and enlarged image of that area in the red  
18 box, correct?  
19 A Correct.  
20 Q Now, that's an individual that you've  
21 identified as standing, right?  
22 A He's just in a different posture. Whether

1 he's standing or sitting or kneeling, again, I  
2 couldn't decide. But it was -- it happened in the  
3 same area to give the relative difference of what was  
4 going on, to coincide with possible witnesses that  
5 saw this altercation, and now we have a snapshot in  
6 time to allow the layperson to say, okay, if somebody  
7 can come forward, yes, he was standing here, now you  
8 have a relative change of what's going on between  
9 this frame, this frame, and this frame.

10 Q But the one on the right you used similar  
11 to the individual walking down the aisle to get a  
12 reference point of somebody that appears to be  
13 standing?

14 A Correct. So I could see this person from  
15 top to bottom and see his movements. On this one  
16 (indicating) it was relatively quick. I didn't see  
17 his entire body. I couldn't see from the waist down,  
18 but it's still a discernable height difference in  
19 that frame.

20 Q Okay. And so in order to get these images  
21 that we talked about, it looks like in your report it  
22 says nine BMP images containing Oulson and two other

1 individuals were exported from the proprietary video  
2 player and electronically processed?

3 A Uh-huh.

4 Q Is that yes?

5 A Yes.

6 Q And by "electronically processed," what do  
7 you mean specifically in regards to this report?

8 A So the electronic process was being able to  
9 find that corner, align all of these images, do them  
10 -- make sure that all of the images placed on the  
11 chart were equally placed so the size is the same,  
12 the distance is the same. These three areas are  
13 exactly three identical areas that were taken at the  
14 bottom right-hand corner and placed on here for a  
15 visual effect and allow me to do the line across and  
16 make it exactly the same place on all three images.

17 Q Okay.

18 A And then, of course, save, print and  
19 produce.

20 Q You did some spectral (sic) highlight  
21 charts here?

22 A Yes.

1 Q Let's --

2 A Specular.

3 Q Specular. I'm just reading the top.

4 A Yeah. And I was going to talk to the  
5 prosecutor because when I looked at this, I forgot  
6 about the one word.

7 Q Okay. So we have Specular Highlight Chart  
8 that's mistitled. It's a Spectral Highlight Chart.  
9 I marked it Number 7. It's Number 1.

10 (Whereupon, the Spectral Highlight  
11 Chart 1 was marked as Defendant's  
12 Exhibit Number 7 for identification.)

13 BY MR. MICHAELS:

14 Q Do you have a copy of that in front of you?

15 A Chart Number 1, yes, sir.

16 Q What are we looking at here? Tell me what  
17 the big picture up top is.

18 A The big picture up top is the full frame.  
19 The bottom right-hand corner is just a block of --  
20 you know, an enlarged portion of that area around the  
21 square. The arrow is the relative center, just as --  
22 defined this is where I took the image or took the

1 measurement. And then you see the measurement output  
2 from the Curves measurement.

3 Q Okay. And it says output 202?

4 A Uh-huh. So that little dot, if you see  
5 right there (indicating) in the center of it, that is  
6 the brightness from left to right is -- down at the  
7 bottom would be the 202 measurement, and from bottom  
8 up would be brightness.

9 (Whereupon, Mr. Escobar returns to the  
10 room.)

11 Q Okay. And in terms of the source of that  
12 item that's identified with the red box and cropped  
13 and enhanced, we can agree that you have no opinion  
14 as to the source of that?

15 A No, I wasn't able to define the source.

16 (Whereupon, the Spectral Highlight Chart 2  
17 was marked as Defendant's Exhibit Number 8  
18 for identification.)

19 BY MR. MICHAELS:

20 Q Let's go to number 2. And it's the chart  
21 marked number 2, we now know is actually a Specular  
22 Highlight Chart. Tell me what we're looking at in

Page 369

1 that top.  
2 A Exactly the same thing. Full frame up top,  
3 cropped, centered. I enlarged down at the bottom  
4 right. Left-hand side was the measurement of that  
5 center mass of the pixel, the brightest pixel that I  
6 could find within the center mass at that point in  
7 time.

8 Q Okay. And so on Number 2 it looks like the  
9 pixel output is 179?

10 A Correct.

11 Q And on the first one it was 202?

12 A Correct.

13 Q You obviously look like you have a similar  
14 area in Chart 1 and Chart 2. You agree with me?

15 A It is four seconds later. Four seconds  
16 later? Or four minutes later. So the difference  
17 would be in time.

18 Q But is it a -- is it in the exact spot or  
19 not?

20 A No, it is not.

21 Q Okay.

22 A So I looked through, and I tried to find --

Page 370

1 or I found every area within that area there where I  
2 could find those highlights and made a measurement.

3 Q Okay. Now, there's a difference of, let's  
4 see, 23 in terms of the value for pixel output.

5 A Correct.

6 Q So with any degree of scientific certainty,  
7 can you say that the item that appears to be a  
8 lighter area in the -- in the still of the video you  
9 captured on one is the same as the item that you've  
10 captured in Chart Number 2?

11 A No.

12 Q Okay.

13 A That's why my outcome with this is I cannot  
14 derive where these things came from and what produced  
15 them. That is the same about every one of these  
16 images.

17 Q Okay.

18 (Whereupon, Spectral Highlight Chart 3  
19 was marked as Defendant's Exhibit  
20 Number 9 for identification.)

21 BY MR. MICHAELS:

22 Q So for Chart Number 3, which is Exhibit

Page 371

1 Number 9, it's the same kind of a thing?

2 A It's exactly the same thing, sir.

3 THE COURT REPORTER: I don't mean to  
4 interrupt, but you didn't capture your other exhibit  
5 on the record.

6 (Off-the-record discussion.)

7 MR. MICHAELS: For the record, seven is  
8 Chart Number 1, Specular Highlight Chart, marked  
9 Spectral Highlight Chart Number 1. I apologize.  
10 Thank you.

11 BY MR. MICHAELS:

12 Q Number 3, similar situation?

13 A Yes, sir.

14 Q And, again, it's separated in time again?

15 A Uh-huh.

16 Q Is that right?

17 A Yes. That's why, I mean, each one of these  
18 were captured at a different period in time from the  
19 start to the finish to show the relative brightness  
20 and pixel output on every one of these that I could  
21 find.

22 Q And is the location of the dot that's

Page 372

1 highlighted and pointed to with a red arrow in Chart  
2 3, is it in exactly the same place as in Chart 2 or  
3 1?

4 A No, it moves.

5 Q Now, this is a pixel output of 150?

6 A Uh-huh.

7 Q And Chart 1 was 202?

8 A Uh-huh.

9 Q Is that yes?

10 A Yes. Sorry. Yes.

11 Q So now we have a difference of 52 --

12 A Yes.

13 Q -- in value? Does that concern you as a  
14 scientist in terms of saying that the same object  
15 caused both of those light spots in the video?

16 A No, it does not.

17 Q And that's because you can't say that,  
18 right?

19 A No, I mean, the difference is a true  
20 measurement, whatever was making the reflectivity of  
21 -- or whatever that light source is, if you look at  
22 the video, you can actually discern movement and

Page 373

1 what's going on in there. So it doesn't concern me  
2 as far as the separation and the pixel output. If  
3 you watched the video, you can basically see what's  
4 going on in the movement of these pixels and where  
5 these highlights are going. I would have expected  
6 that the pixel output on this frame to be darker than  
7 I would on these, just by the actions of what's going  
8 on in the video.

9 Q And why do you say that?

10 A It just appears that that specular -- or  
11 that specular highlight is moving into the shadows.  
12 So it's deeper into the shadows. So it's not up into  
13 where we would see more light being visible towards  
14 this camera.

15 Q And what shadows are you talking about?  
16 Shadows cast by what?

17 A If you -- well, below the seat surface. So  
18 everything -- if you get further down below the seat  
19 surface, items are going to get darker.

20 Q And I know Mr. Escobar asked you concerning  
21 the angles of the camera.

22 A Uh-huh.

Page 374

1 Q Wouldn't that be important to determine  
2 what sort of image you're going to get?

3 A I'm looking not at the angles, but I'm  
4 looking at, you know, the action of what's going on  
5 in the video. Whatever the angle is is static. So  
6 the angle of the camera on Chart 1 is the exact same  
7 angle of the camera in Chart 3. Whatever that degree  
8 is makes no difference, because it is static. It's  
9 not moving, so it's not changing this degree. What's  
10 changing is the position of this specular highlight  
11 in the frame itself. So I would expect as it moves  
12 around in the frame -- for whatever reason or  
13 whatever is producing it -- it is going to change the  
14 pixel output, because it is getting further away,  
15 darker in, below the seats, above the seats, the  
16 visual concept of where that pixel or whatever is  
17 driving that specular highlight is going to be  
18 different as recorded by the camera.

19 Q Well, we can agree that you can't say that  
20 what's depicted in Chart 1 in terms of a -- and now I  
21 can't even remember what it is. Specular highlight.  
22 Specular highlight, you can't say that the object in

Page 375

1 Chart 1 is the same object as in Chart 2, right?

2 A There's a separation in time, and, again,  
3 we have to look -- and I produced these to coincide  
4 with viewing the video at the same time. So you have  
5 some concept of is there a difference or a separation  
6 of where this specular highlight is recorded, whether  
7 it's underneath the seat, whether it's above, if that  
8 specular highlight is consistent and constant in a  
9 particular area and recorded on four or five frames.  
10 I only took one frame. There was no reason for me to  
11 change that output in the singular frame. I took a  
12 period of time where I could see the specular  
13 highlight in a statistic area for a period of time.

14 The video of itself coincides with these  
15 charts. Without viewing the video at the same time  
16 and looking at the video over and over again to see  
17 where the specular highlight changes in position,  
18 then you can get some concept about what these charts  
19 mean, how it defines the brightness and the darkness,  
20 and what this examination completely unfolds.

21 Q So do you have some sort of opinion then  
22 based on these charts that you've created?

Page 376

1 A Yes, I -- the opinion itself was stated in  
2 the report that the specular highlight during these  
3 two periods of time that I have stated in the report  
4 appear to be linked to the individual's foot or  
5 movement of his feet. And I do not know the source  
6 of it. It just appears to coincide with the  
7 movements of those -- of those movements, of the  
8 individual's movements.

9 Q Now, did you do any sort of examination of  
10 the footwear that Mr. Reeves had on that day?

11 A I did not. I have not been given that --  
12 that material. I haven't been given the shoes. I  
13 haven't been allowed access into the theater. What  
14 you see is what I have. I've done everything out of  
15 my laboratory. This is what I've done. So beyond  
16 that, I cannot speak to the shoes. I cannot speak to  
17 anything other than what I've produced and what we  
18 have seen in the video and the images that I have  
19 produced.

20 Q And so you've already said that you can't  
21 opine as to whether the source of these -- here I go.

22 MR. ESCOBAR: Specular.

Page 377

1 Q Specular highlights --  
2 A That's where I got confused. It's back and  
3 forth.  
4 Q Specular highlights is Mr. Reeves' shoe  
5 specifically?  
6 A No, I said it coincided with the movement  
7 of his feet. I did not say it was particularly his  
8 shoe. I cannot define exactly what this is, because  
9 I do not have enough resolution; however, it does  
10 move with the actions of his legs.  
11 Q But, again, you would depend on what you  
12 see is what I see?  
13 A Correct.  
14 Q So whatever the jury or the judge sees,  
15 it's for them to determine what's moving and what  
16 isn't moving?  
17 A Correct.  
18 Q You have no opinion as to that?  
19 A I just stated the opinion that this  
20 specular moves and coincides with the movement of his  
21 feet.  
22 Q Okay. What about the specular highlight

Page 378

1 that's shown in Defense Exhibit 6 (tenders document)?  
2 And it's that middle picture. Do you see that light  
3 there?  
4 A 13:26:25.379. 13:26 -- 379, it's basically  
5 the same one as this one, correct? So when the frame  
6 -- yeah, it's the same one as that one.  
7 Q You're looking at Chart Number --  
8 A Nine.  
9 Q -- 9?  
10 A Yeah. So as I stated before, when this  
11 object stayed in the same place, I selected a frame.  
12 So there was no movement in here. It's the same  
13 frame, just recorded over several frames. So that is  
14 the measurement there.  
15 So in this particular one, I'm not looking  
16 at that specular highlight. I am looking at the  
17 position of this individual. This is a different  
18 examination than this (indicating.) I want to make  
19 that very clear. This is for height position. This  
20 is trying to define what that is.  
21 Q And the first "this" you were talking about  
22 Chart 3?

Page 379

1 A Correct.  
2 Q The second "this" you're talking about  
3 Chart --  
4 A Nine.  
5 Q -- 9?  
6 A Two different examinations, different hats.  
7 MR. MICHAELS: Let's talk about Chart 9  
8 then. Chart 9 I will mark as Defense 10.  
9 (Whereupon, Spectral Highlight Chart 9  
10 was marked as Defendant's Exhibit Number  
11 10 for identification.)  
12 BY MR. MICHAELS:  
13 Q And that's the one we were just talking  
14 about, right?  
15 A 13:26:25.346, yes, sir.  
16 Q Okay. And that's in the same area as where  
17 you're trying to determine whether Mr. Oulson was  
18 seated or standing?  
19 A Apples and oranges. Yes, sir.  
20 Q I understand, but I'm just trying to get a  
21 perspective on the area we're talking about. Okay?  
22 A Yes, same area.

Page 380

1 Q And also around that same time, it's just a  
2 couple of frames removed, right?  
3 A Yes. I mean, they're the exact same  
4 recordings. It's just that -- the exact same image  
5 is recorded over a couple of frames.  
6 Q Now, that specular highlight measured out  
7 at 192, correct?  
8 A Yes.  
9 Q Now, do you know -- have you -- let me ask  
10 it to you this way: Would it be helpful to you if  
11 you actually had Mr. Reeves' shoes, went to the movie  
12 theater, had -- tried to duplicate the lighting that  
13 was at the time of the movie, used the same camera to  
14 photograph that area or to have them capture an image  
15 in terms of like giving you a control to see whether  
16 or not the shoe moved in different positions matched  
17 up with the -- with the values that you got from the  
18 video?  
19 A It's a possibility.  
20 Q But, I mean, in a perfect world that  
21 would --  
22 A In a perfect world, yes.



Page 381

1 Q Do you know what the -- what the specular  
2 highlight value is of an iPhone?

3 A I do not.

4 Q In a movie theater?

5 A That would be a silly question because --  
6 no, I would not.

7 Q Okay. So when you see the Chart Number 9,  
8 you can't say that that item that's pointed out and  
9 it's highlighted is not an iPhone, right?

10 A As I have stated multiple times, I do not  
11 know what the source of the specular highlights are.  
12 The only thing that I've stated is that the time  
13 instances between 13:19:46 frame 446, 13:26:14.679  
14 were located, the instances appear to be linked to  
15 the reflection of the shoes of Reeves and the  
16 brightness measurements ranged from 150 to 205.  
17 Similar instances of the specular highlights were  
18 located at 13:26:25, frame 342 to 13:26:25.946, which  
19 appear to be linked to the reflection from the shoes  
20 of Reeves. The measured brightness from these  
21 highlights range from 132 to 192. Of note, the  
22 highlights depicted at 13:19:46 frame 446 and

Page 382

1 13:26:25:879 appeared to be in similar positions,  
2 that both highlights had brightness measurements of  
3 150. However, due to the limited resolution of the  
4 imagery, the source of the spectral (sic) highlight  
5 could not be scientifically determined.

6 That is my statement. That is what I have.  
7 I have made the measurements. And that is my  
8 opinion. Nothing beyond that, nothing constrained.  
9 BY MR. ESCOBAR:

10 Q Let me ask you a question, because you made  
11 some statements and I don't want it to get too far  
12 away. You said that they were the actions of his  
13 legs and the movements of his feet. Where did you  
14 see legs and feet that you were able to  
15 scientifically determine?

16 A As I stated, I could not find the --  
17 scientifically define the source of that highlight.

18 Q No, I'm talking about you -- you've said  
19 here legs and feet, and so I want to see -- you show  
20 me where in any of your examination you have defined  
21 scientifically, number one, legs and, number two,  
22 feet. So let's go legs first.

Page 383

1 A Only visually.

2 Q How did you determine a leg visually?

3 A I watched the action of the individual in  
4 the video.

5 Q I want you to show me in your exhibits here  
6 that you have that you brought, show me legs. Which  
7 camera are you going to be using? Just let us know  
8 so we can have a record here of what you're doing.

9 A Yep, just hold on one second. Let me get  
10 to it. I think it's this one. Leg movement bottom,  
11 top (indicating.)

12 Q So you're saying that that object that is  
13 to the right of the white object in the -- is a leg?

14 A I'm saying he crossed his leg.

15 Q And what -- did you do any measurements to  
16 scientifically determine that?

17 A No, it's all visual.

18 Q So is that a scientific process that you  
19 just used to determine that it was a leg?

20 A Visual aspect.

21 Q Is that a scientific process that is  
22 determining that that's a leg?

Page 384

1 A No, it's not a scientific process. It is  
2 my opinion that that spectral (sic) highlight is tied  
3 to the movements of his feet and his leg and moves  
4 throughout in this video.

5 Q Does your analysis with specular highlights  
6 allow you to opine to a nonscientific fact? Because  
7 you haven't established that alleged fact  
8 scientifically. So are you telling me that when  
9 you've been taught on the specular highlight process,  
10 that they have indicated to you that you can opine on  
11 where that light source is coming from?

12 A I opined that that light source was not --  
13 I could not find what the source of that light source  
14 was, but I could define it as being movement with the  
15 body movements of that individual.

16 Q Well, you just said a leg there.

17 A Uh-huh.

18 Q What part of the leg are you seeing?

19 A You can see the leg. You can see him cross  
20 his leg.

21 Q What part of the leg?

22 A His leg.



Page 385

1 Q But what part of the leg? Is it his thigh?  
2 Is it his knee? Is it his toe?  
3 A It is --  
4 Q Is it his ankle?  
5 A It is his movement of his body parts.  
6 Q Well, what body --  
7 A I mean, you can see it.  
8 Q -- parts in particular are you defining  
9 factually that you're basing your opinion on with the  
10 issue of leg?  
11 A Leg, the crossing of his leg.  
12 Q So you don't know what part of the leg?  
13 A He crosses his leg. You can see it, and  
14 that's the defining --  
15 Q How does he cross his leg?  
16 A Right to left. And that --  
17 Q Well, no. How does he cross his leg? Does  
18 he cross his leg up and over? Does he cross his leg  
19 sideways?  
20 A I'm looking specifically at the movements  
21 of the individual in the video compared to the  
22 specular highlight in that movement. That is why the

Page 386

1 definition of these charts and that video are defined  
2 together.  
3 Q Who has trained you on specular highlights?  
4 A A specular highlight is nothing more than a  
5 light measurement of that, in particular, specular  
6 highlight at that time.  
7 Q Who has trained you on specular highlights?  
8 A Define training. There is --  
9 Q Any training that you received on specular  
10 highlights. I want to know who trained you and when  
11 did they train you.  
12 A Okay. Well, I have went to Adobe Photoshop  
13 courses in which I used this measurement device  
14 throughout the last, what, 20 years.  
15 Q Who trained you? Who in particular? I  
16 want to know what expert in that field told you that  
17 you could --  
18 A Make a measurement of a pixel?  
19 Q No, that you could use both your lay  
20 opinions, which is not a scientific opinion, that a  
21 spectral (sic) highlight is somehow being caused by  
22 the movement of a leg. I want to know what expert

Page 387

1 told you that that's part of the process?  
2 MR. MARTIN: That's not what he said.  
3 MR. EARL: That's not what he said.  
4 MR. ESCOBAR: Well, let him answer it and  
5 -- listen, you all are not testifying.  
6 MR. EARL: I understand.  
7 MR. ESCOBAR: Okay? He's testifying. You  
8 can make an objection on the record --  
9 MR. MARTIN: Well, I object to the  
10 question.  
11 MR. ESCOBAR: -- and then we will deal with  
12 the issue.  
13 MR. MARTIN: I'm going to make the  
14 objection on the record.  
15 MR. ESCOBAR: Okay, good.  
16 MR. MARTIN: You misquoted what he said.  
17 MR. ESCOBAR: Good.  
18 BY MR. ESCOBAR:  
19 Q Answer it.  
20 A I did not define where the -- where this  
21 was actually being produced. I said that that  
22 specular highlight coincides with the movements.

Page 388

1 Q My question is: Where did you learn -- who  
2 taught you that you could use your lay opinion that's  
3 not scientific about the movement of a body part and  
4 correlate that with a spectral (sic) highlight?  
5 Spectral -- specular highlight.  
6 A No one trained me. It's a visual context  
7 in which I learned in 20 years of experience looking  
8 at video, looking at criminals, defining what the  
9 video -- what's going on in the action of the videos,  
10 and using scientific -- scientific measurements to  
11 define what that specular highlight measurement is.  
12 And the movements of that specular highlight is  
13 visual with the context of the movements of that  
14 individual in that frame.  
15 Q Have you ever testified in a court of law  
16 concerning those two objects, number one? First of  
17 all, giving a lay opinion --  
18 A Yes.  
19 Q -- concerning -- wait. Do you know what  
20 the question is?  
21 A Well, I just answered your question, but go  
22 ahead.

Page 389

1 Q But how can you answer it if you don't know  
2 it?

3 A I just did.

4 Q I know that's pretty amazing.

5 A Please continue.

6 Q So tell me what my question was going to  
7 be.

8 A Please continue.

9 Q You don't know what the question was going  
10 to be, right? You just answered it, because you just  
11 wanted to answer it regardless of whether it was  
12 going to be true or not.

13 MR. EARL: I can jump in here and say this  
14 is argumentative and abusive to the witness.

15 MR. ESCOBAR: Well, if you don't know what  
16 the question is, how can you answer it?

17 MR. EARL: Just ask your question.

18 THE WITNESS: Ask your question, please.

19 BY MR. ESCOBAR:

20 Q I am. If you don't know the question, how  
21 are you going to answer it?

22 A Will you just ask the question, sir?

Page 390

1 MR. EARL: There's just no reason for this.

2 Q So you are going to refuse to answer that  
3 question?

4 A You just asked the question, and I answered  
5 it. If you'd like the court reporter to read it  
6 back, you did ask a question, and I answered it.

7 Q Well, you answered the second -- the first  
8 time you answered, it wasn't even a question.

9 A You asked the question have I ever  
10 testified in a court of law in which my opinion --  
11 lay opinion made a difference?

12 Q No, no, not made a difference. Have you  
13 ever --

14 A Did I testify? Yes, I have.

15 Q Have you testified in a court of law  
16 concerning your lay opinion that had no scientific  
17 basis --

18 A Yes.

19 Q -- concerning the movement of a body part?

20 A I did.

21 Q And where was that?

22 A Boston. Boston Marathon.

Page 391

1 Q And what did you testify there that was the  
2 movement of a body movement?

3 A The individual was in front of his brother.

4 Q Okay.

5 A That's it. Placement of the individual in  
6 the video.

7 Q And can you compare the quality of film  
8 between this and the Boston --

9 A Apples and oranges. You're talking one  
10 thing to another. You asked me a simple question --

11 Q Apples and oranges?

12 A Yep.

13 Q Meaning what?

14 A Meaning --

15 Q This was worse?

16 A Well --

17 Q The quality?

18 A Video quality in this is worse, yes.

19 Q Okay. So legs was one thing. You also  
20 said the movement of feet.

21 A Uh-huh.

22 Q So tell me where you see the movement of

Page 392

1 feet. Give me an actual --

2 A I already did.

3 Q Give me an actual image that you see a  
4 movement of, quote, feet. You've given me the one  
5 already on legs, right? Did you give me the actual  
6 number on legs? Let's make sure we have it on the  
7 record.

8 A Right there, sir (indicating.)

9 Q Movement of feet is -- okay, so it's --  
10 what's the image number?

11 A There isn't an image number. It's video.

12 Q It's video. What's the timestamp?

13 A It's right there.

14 Q 13:26:14.679?

15 A Uh-huh.

16 Q Okay. And do you see feet there?

17 A I see his movement of his feet, yes.

18 Q Well, do you see the movement of his legs  
19 or do you see actual feet there?

20 A I see legs, feet moving. He's walking.

21 Q So you see feet?

22 A I see him walking.

Page 393

1 Q But do you actually see his feet?  
2 A I see him walking.  
3 Q So you don't see his feet? Well, you said  
4 feet before, that's why I want to make sure that --  
5 A Yes.  
6 Q -- we're -- if we're talking -- did you see  
7 -- do you see his feet?  
8 A My statement stands. The video was  
9 produced. That is my opinion.  
10 Q Do you see his feet?  
11 A In this one I see movement of his feet and  
12 his legs as he's walking from right to left.  
13 Q So the answer is, yes, you see his feet?  
14 Do you see his feet?  
15 A That appears to be his feet.  
16 Q Do you see his feet?  
17 A Appears to be his feet.  
18 Q Okay.  
19 A Let's take a break.  
20 (Whereupon, the deposition recessed at 3:55  
21 p.m. and resumed at 4:02 p.m.)  
22 (Whereupon, Spectral Highlight Chart 17

Page 394

1 was marked as Defendant's Exhibit  
2 Number 11 for identification.)  
3 BY MR. MICHAELS:  
4 Q Let's look at Spectral Highlight Chart -- I  
5 said it again. Spectral Highlight Chart Number 17.  
6 It's Defendant's Exhibit Number 11.  
7 A Which chart? Seventeen?  
8 Q Number 17. What's the purpose of this  
9 chart?  
10 A So the purpose of this chart was specular  
11 highlight, the movement and the placement of where in  
12 this time period was similar to the one in this time  
13 period, and the pixel output was similar.  
14 Q Now, there are two images?  
15 A Uh-huh.  
16 Q The one on the right seems to have an  
17 indicated area of lightness with an arrow that's a  
18 little lower than the one --  
19 A It is.  
20 Q -- on the left?  
21 A It is. It's not exactly the same  
22 placement. It's in the relative same placement.

Page 395

1 That's all.  
2 Q Now, when I look at the one on the left,  
3 the image on the left, I see in the bottom of the box  
4 pretty close to where the indicated light area is on  
5 the right --  
6 A Uh-huh.  
7 Q -- kind of another light area?  
8 A Yes, there is a lighter highlight there,  
9 yes.  
10 Q Was that measured at all?  
11 A That was not.  
12 Q And is there a reason why it wasn't  
13 measured?  
14 A That is not the one that I was -- that  
15 moves.  
16 Q What's that?  
17 A That's not the one that moves.  
18 Q So you're saying these move?  
19 A Yes.  
20 Q The two that are indicated?  
21 A Yes.  
22 Q And, again, this is by you looking at the

Page 396

1 video?  
2 A Yes.  
3 Q The same things you discussed with  
4 Mr. Escobar?  
5 A I have the ability to look at the video and  
6 watch movements within the video, yes. And this  
7 specular highlight does move throughout the video, as  
8 stated within my report.  
9 Q But in terms of the source of the video,  
10 you -- there's no scientific basis, you can't opine  
11 with any degree of scientific certainty what the  
12 source of the light is?  
13 A That is stated in my report as well. I can  
14 state that it's moving. I can say it's linked to his  
15 movement of his feet. I don't know what is producing  
16 that reflection or that specular highlight.  
17 BY MR. ESCOBAR:  
18 Q You keep saying reflection.  
19 A Sorry.  
20 Q How do you know that it's a reflection?  
21 A Specular highlight. I'm sorry. It was a  
22 simpler word.

Page 397

1 Q I just want to make sure, because we've  
2 done it --

3 A Specular highlight.

4 Q -- in this record like at least ten times.

5 And you don't have a scientific basis for saying it's  
6 a reflection versus emitting light, correct?

7 A Correct. Again, I don't know what the  
8 source is. I mean, if you look at this frame, and if  
9 I were to look at this and say what is emitting  
10 light, I would say it's a good possibility the lights  
11 on the other side, if those are lights, are actually  
12 emitting light. I don't know what the source of this  
13 spectral (sic) highlight is, whether it's emitting  
14 light or reflecting light from the camera.

15 Q Okay. I'm sorry, I just -- yeah, I just  
16 want to --

17 A That's fine, that's fine.

18 Q -- you know, clear the record, because --

19 A That's fine.

20 Q -- you keep saying these things, and  
21 they're --

22 A Well, again, when I looked at -- I mean,

Page 399

1 When we come to an opinion-based testimony,  
2 as in this one, I do look at everything that I have  
3 produced, and I do have an opinion as to the actions  
4 of what's going on, what could have possibly have  
5 been derived from the specular highlight and taking  
6 in all of this information. Again, I'm just looking  
7 at the truth. Who it benefits, who it doesn't  
8 benefit, I don't care. I am looking at what are the  
9 possibilities? Can I define what it is? Can I not  
10 define what it is? That is what I'm trying to do.  
11 What you see is the extension of everything that I  
12 could possibly think of that I have the capability of  
13 doing in my laboratory. That's all.

14 Q We can agree that you cannot exclude as a  
15 possibility in your specular highlight analysis that  
16 one of those images may contain an image of a cell  
17 phone being thrown, for instance?

18 A It could be a cell phone. It could be --

19 Q A reflection off his shoe?

20 A It could be a reflection off his shoe. It  
21 could be a purse. It could be whatever. I am  
22 looking at a time, what is happening amongst certain

Page 398

1 this is why back in the other examination I looked at  
2 the highlights from his shoes and placed that in  
3 other camera views for us to see. So there is  
4 content to where you can see that there is some  
5 reflection from his shoes in other camera views  
6 outside of this camera angle and inside this camera  
7 angle from both sides.

8 BY MR. MICHAELS:

9 Q What professional field qualifies you to  
10 testify as to what you're seeing in the video? And  
11 what we're talking about is earlier you said, I don't  
12 have an opinion, because that's not what I do in  
13 terms of what's going on in the video. And now we  
14 get to this spectral highlight -- there I go again.  
15 The specular highlight area of inquiry, you're now  
16 talking about your observations of seeing feet and  
17 shoes and all that testimony.

18 A Correct. So as I stated before, the video  
19 forensics video enhancement portion, I do not have an  
20 opinion as to the actions of what's going on in that  
21 examination. And I clarified that several times  
22 throughout this discussion.

Page 400

1 time periods within this video, and seeing if they  
2 define similar. That's all.

3 In this particular case there were two  
4 actions of specular highlights that were moving tied  
5 to his feet, his movements of his legs, relative in  
6 the same area, same position. I made the  
7 measurements of it, and that was it.

8 If you look back in the enhancement, there  
9 is a section where I take all of the highlights that  
10 I found with the movements with his feet with him in  
11 walking through and defined that for any person to  
12 state, to see, to visualize.

13 Is it a reflection of his shoe? I have no  
14 idea, because I cannot prove it. Scientifically, I  
15 can't prove it. I can state visually that that  
16 specular highlight coincides with the movements of  
17 his movements of his legs, of his feet. Foot's tied  
18 to his leg, which is tied to his hip, which is tied  
19 to his chest, however which way you want to do it.  
20 Those movements coincide together. That's all.

21 I don't know what's driving it. Yes, there  
22 could be something right there at that one frame that

Page 401

1 is different. But in these two periods, they're  
2 similar. That's all. I made scientific measurements  
3 of one particular instance of one particular pixel at  
4 that time. That's it. What comes beyond that, I  
5 don't know. And I've stated that. I don't know  
6 what's making this specular highlight. I just don't  
7 know. I can't prove it. That's what I'm saying. I  
8 can't prove it. I'm just showing you what I've done.

9 BY MR. ESCOBAR:

10 Q Have you ever testified as an expert?

11 A Yes.

12 Q On specular highlights?

13 A No. No, I have not.

14 Q Why not?

15 A I have never had to testify in a case  
16 because of specular highlights. That's why.

17 Q How many times have you opined concerning  
18 any particular specular highlight in a forensic mode?  
19 In a forensic mode.

20 A Can you define that question again?

21 Q Forensically.

22 A Okay.

Page 402

1 Q In a case --

2 A In a case?

3 Q -- forensically. Where you've authored  
4 that in a report forensically?

5 A I can't think of one.

6 Q So this is your first experiment in the  
7 case of State of Florida versus Curtis Reeves?

8 A I wouldn't call it an experiment. I'm --

9 Q What would you call it?

10 A -- saying exactly what I found.

11 Q What would you call it if you don't call it  
12 an experiment?

13 A Forensic examination.

14 Q Well, have you gone to anyone that has  
15 testified as an expert in specular highlights to sort  
16 of get peer-reviewed on your process?

17 A No. I was peer-reviewed by the other  
18 examiners within my office on this case.

19 Q How many of those have testified before a  
20 court of law as an expert in specular highlights?  
21 The identification of specular highlights  
22 forensically?

Page 403

1 A I don't know that answer.

2 Q Well, you had a meeting. Did you not ask,  
3 Hey, guys, how many of you all know how to deal with  
4 this?

5 A No, you're going beyond something that I  
6 didn't ask.

7 Q That would have been a good question,  
8 wouldn't it?

9 A There's a lot of things that you're saying  
10 that I could have done differently, but I didn't.  
11 But this is what I've done.

12 MR. ESCOBAR: Go ahead, Dino. I'm sorry.

13 BY MR. MICHAELS:

14 Q I'll show you what's been marked as 10.  
15 It's Spectral (sic) Chart Number 9.

16 A Number 9, yes, sir.

17 Q Now, you've talked about the light area  
18 being tied to movement.

19 A Correct.

20 Q And movement of Mr. Reeves specifically is  
21 what you're saying?

22 A During those two time periods, yes.

Page 404

1 Q Well, in this Number 9 that you're looking  
2 at, can you tie that specifically to any movement?

3 A You're looking at a single image, so it's  
4 not moving.

5 Q I understand that. But could you tie that  
6 particular image and that spectral -- and that  
7 measurement, that specular measurement to a time  
8 period when there is movement?

9 A Let me pull this back up. 13:26:25. Yes,  
10 that's tied to his feet as he uncrosses his leg and  
11 moves it down.

12 Q Okay. And you see in the video clearly  
13 that he's uncrossing his leg? Is that your -- what  
14 your testimony is going to be?

15 A I see the movement of his feet, and that  
16 specular highlight is tied to that movement of his  
17 feet, to his leg.

18 Q And how do you explain then there's a  
19 movement of something coming over the seat that  
20 appears to be an arm of some sort, correct? In front  
21 of Mr. Reeves?

22 A I see that there's movement in front of

Page 405

1 him, yes.

2 Q And how is it that you don't tie -- how can  
3 you exclude the highlight from that movement being  
4 associated with that movement? In other words, let's  
5 say, for instance, that that's a phone with a lighted  
6 screen. Just let's say that, for instance. How can  
7 you exclude that from being a possibility --

8 A Did I --

9 Q -- in that particular image?

10 A Did I at any point in time say what that  
11 reference was as far as what was defining that  
12 specular highlight?

13 Q You did -- you said that it's --

14 A I'm asking.

15 Q I asked you if that's somehow connected to  
16 movement of the foot, because that's what we were  
17 talking about.

18 A Yes, and I can see that that specular  
19 highlight right here is moving at the motion of his  
20 body.

21 Q Okay. But you can't exclude the  
22 possibility that that also may be related to an

Page 406

1 iPhone being thrown?

2 A I am stating what I'm stating. That  
3 specular highlight coincides with the movement of his  
4 person. I don't know what the -- what device or what  
5 is actually producing that specular highlight. That  
6 is what I'm saying.

7 Q Okay.

8 A I'm not defining what it is. I'm not  
9 defining what it could be. I am stating only  
10 defining that one moment is tied to another. That's  
11 it.

12 Q Well, but how do you tie the two movements?  
13 Because we have a second movement in that --

14 A Visually.

15 Q Well, we have a second movement visually as  
16 well?

17 A Uh-huh.

18 Q Correct?

19 A We do, yeah.

20 Q So how do you exclude that second movement  
21 from being potentially the source of the highlight  
22 that we're talking about?

Page 407

1 A Because that's not even anywhere close to  
2 where the specular highlight is. It is defined with  
3 the movement of that individual. You can see it.

4 Q Well, how far away is what that one object  
5 is that appears to be an arm from the highlight that  
6 you're talking about?

7 A I have no measurements. I did not take any  
8 measurements. As I have stated before, I don't know  
9 if he's standing, sitting or anything. I have no  
10 measurements of this entire theater.

11 Q So when you say it's far away, that's not  
12 exactly a scientific statement of any sort.

13 A No, I'm saying that the -- and I'm going to  
14 go back with my original statement. The movement of  
15 the specular highlight is tied to the movements of --  
16 the relative movements of this individual. That is  
17 what I'm saying. That is what I see. That is what I  
18 put in here. I cannot define what is actually  
19 driving that. I am just saying that the motion of  
20 that is tied to the motion of this. That's all.

21 Q Not necessarily that one has something to  
22 do with the other?

Page 408

1 A I am defining that this moves in --

2 Q This moves and there's a light here?

3 A Yes, at the same time. And then the  
4 position of that light moved to the position of his  
5 position.

6 Q But --

7 A That's it.

8 Q Okay. But you can't exclude and say that's  
9 definitely not an iPhone being thrown?

10 A I can't exclude anything, because I don't  
11 know what's producing the light.

12 Q So then you're not saying then that it's  
13 necessarily Mr. Reeves -- his shoe being reflected  
14 because he's crossing his legs; you're saying I see  
15 movement here, and I see this highlight here, and so  
16 that's what I see?

17 A They're tied. That's all.

18 Q Well, they're tied because you're seeing  
19 them both at the same time?

20 A Not only at this time, but the time before,  
21 and then as he walks forward, as he walks back on  
22 multiple cameras and outside.

Page 409

1 Q I understand. But you will agree with me  
2 that there's certainly multiple things that may cause  
3 a highlight of this sort.

4 A And I've stated before I don't know what's  
5 making it. I can't scientifically state that is what  
6 is producing that. I'm just saying one's tied to the  
7 other. That's all.

8 Q Now, you said that you -- in the Boston  
9 Bomber case you were allowed to testify concerning  
10 what was going on in the video?

11 A She asked me about certain movements in  
12 there, and I answered her.

13 Q And that had to do with -- I guess there  
14 was an issue of whether one brother was following the  
15 other one at some point or something like that?

16 THE WITNESS: Am I okay?

17 MR. EARL: It's public testimony.

18 THE WITNESS: Uh-huh.

19 MR. EARL: It's public testimony. He's not  
20 hear to talk about other FBI cases.

21 MR. MICHAELS: No, I understand that.

22 MR. EARL: But this is public testimony

Page 411

1 at a video and you're describing what's going on in  
2 it? It wasn't that situation?

3 A She asked a question about the movements  
4 and what was going on in the video, and I answered  
5 it.

6 Q No, I understand that. Okay?

7 A Uh-huh.

8 Q But it wasn't that you were qualified as an  
9 expert to somehow be, you know, super human in your  
10 ability to look at things on the video and tell what  
11 they are? It wasn't that sort of thing?

12 A So I've been reviewing video as an  
13 electronic specialist for security for the Air Force,  
14 as a federal agent for what, 14, 15 years, watching  
15 criminals, and installing CCTV systems. I can  
16 visually look at what's going on in a video and  
17 discern what's going on for my own needs. And in  
18 this case for this scenario, I can state that this  
19 specular highlight was tied to the movements of his  
20 legs and his feet.

21 Q But that's not a scientific opinion, that's  
22 a lay opinion based on your ability to look at video,

Page 410

1 SO --

2 MR. MICHAELS: I just want to find out how  
3 he got to testify about this and make sure --

4 MR. ESCOBAR: We've got his transcript.

5 THE WITNESS: She asked me who was leading  
6 who, and I said, well, at this point this brother  
7 was, in fact, in front of the other brother.

8 BY MR. MICHAELS:

9 Q Okay. So it wasn't a question of you're  
10 looking at a video that's difficult to discern and  
11 you're explaining to the jury what's going on? It  
12 wasn't that sort of situation?

13 A No, she completely said that her brother or  
14 the older brother was leading the other brother, and  
15 he was always in front, telling -- basically showing  
16 the brother where to go. And I found that to be  
17 wrong and stated that.

18 Q Okay. You showed them the video, and, no,  
19 that's not right, because here is your guy in front?

20 A I watched it for two years and know exactly  
21 what was going on.

22 Q But it wasn't a question of you're looking

Page 412

1 right?

2 A Yeah. And if anybody else were to look at  
3 this, I'm sure that they would come up with the same  
4 opinion.

5 Q All right. So basically you're saying what  
6 you think anybody else would see? Is that fair to  
7 say?

8 A To the point of a scientific measurement of  
9 that light -- or, excuse me, that spectral (sic)  
10 highlight at one certain point tied to the same  
11 spectral (sic) highlight movements at another point.  
12 That's all I'm doing, is spectral (sic) highlight  
13 movement in this group of time earlier appears to be  
14 tied to the same foot and same movements as this one  
15 over here at this time (indicating.)

16 Q And I think that's kind of the place where  
17 I have a little bit of a problem, because we're  
18 getting into that appears thing?

19 A Okay. The movements of this individual  
20 ties directly to the movements of the spectral (sic)  
21 highlights during the time periods that I have stated  
22 in my report in both of the incidents prior to and



Page 413

1 the secondary instance.

2 Q Okay. But that's not --

3 A It's a visual function. That's what I see.

4 Q But that's not what you wrote in your  
5 report. Go to Page 2 of 3 and look at opinions. In  
6 the opinions it says -- it doesn't say they were  
7 tied. It says, Instances of specular highlights at  
8 3:19:46.446 (sic) through 3:26:14.679 (sic) were  
9 located.

10 A Right.

11 Q These instances appear to be linked to the  
12 reflection from the shoes of Reeves. And then you go  
13 on to the brightness measurements and all of that.

14 A Yes.

15 Q So, again, it's "appear" so --

16 A That's what it appears to be.

17 Q Okay. So your opinion wasn't that those --  
18 those specular highlights are tied to the movement of  
19 Mr. Reeves, because that's not anywhere in your  
20 report, right?

21 A Linked to the reflection of the shoes of  
22 Reeves, as he moves throughout the video. So --

Page 415

1 but to me that's what it appears to be.

2 MR. MICHAELS: Okay, that's fine. Do you  
3 have anything, Rick?

4 MR. ESCOBAR: Yeah, I do.

5 BY MR. ESCOBAR:

6 Q This goes back to -- we looked at a photo  
7 early on, and it's one of the ones that you have  
8 there, where you see that white silhouette that we  
9 talked about. Do you remember?

10 A Yes, and we defined that here (indicating.)

11 Q And remember that white silhouette appeared  
12 at the same time that we first saw that white light?  
13 Remember?

14 A In that image --

15 Q In that image.

16 A -- you see -- you see both of them, because  
17 the image does not move. It's a singular image  
18 captured in time, yes.

19 Q So at that point in time. And, remember,  
20 we looked at the image before. You didn't see the  
21 white light.

22 A Again, when we're talking of movement in a

Page 414

1 Q Which appear to be?

2 A Yes, appear to be.

3 Q We talked about that whole issue of appear  
4 before?

5 A Yes. My opinion, those two are -- appear  
6 to be moving in the same, similar direction.

7 Q But that's not a professional opinion?

8 A It is my professional opinion.

9 Q And so tell me under what specialty would  
10 that professional opinion be? For instance, a  
11 medical doctor can give an opinion as to -- if  
12 they're a pathologist, the cause of death. What is  
13 your field that allows you to give that opinion that  
14 they appear to be linked?

15 A I'm a photographic technician with the FBI.  
16 I am viewing this video. The movement of that  
17 specular highlight coincides with the movement of  
18 that individual. I've answered this over and over  
19 again. That is -- that's what it appears to be to  
20 me.

21 Q Okay.

22 A If you have another opinion, that's fine,

Page 416

1 frame, so, yes, one image would be different than the  
2 other.

3 Q Okay. And that was the only image that you  
4 actually saw that light. So the movement --

5 A No.

6 Q All of the sudden we see the silhouette for  
7 the first time in an image.

8 A Hold on.

9 Q Okay.

10 A So as I've stated before, and these charts  
11 discern, that -- are you talking silhouette, or are  
12 you talking about the specular highlight?

13 Q I'm talking about the spectral (sic)  
14 highlight and the silhouette together. Remember?  
15 Let's go to that particular image.

16 A Let's go to the video, because it shows it  
17 a whole lot more.

18 Q Okay.

19 A As I've stated before, it's much easier --

20 Q Right there, right there.

21 A Yeah, hold on, hold on.

22 Q Don't let it go.



Page 417

1 A Hold on. I am good. So when you start  
2 defining this -- so, yes, there it is.

3 Q Let's get it when you first see the light.  
4 When you first see the light, let's stop it there.

5 A So when he's uncrossing his legs right  
6 there --

7 Q No, no. I want to get it when you first  
8 see the light. It's up higher.

9 A Uh-huh.

10 Q Right there.

11 A Yep.

12 Q So, now, you're seeing that silhouette for  
13 the first time.

14 A Okay, because the recording starts right  
15 there, yeah.

16 Q So you're seeing the silhouette for the  
17 first time, and you're seeing for the first time that  
18 spectral (sic) highlight, correct?

19 A Hold on. Because the video starts  
20 recording at that point, yes.

21 Q Well, you can't assume that there was  
22 something else, right? That's where the video starts

Page 419

1 Q Exactly. So could there be two things  
2 happening at the same time? That meaning someone  
3 getting a phone and throwing it at someone, and at  
4 the same time when that light from that phone reaches  
5 near the person that's sitting, that there is some  
6 movement of that individual?

7 A So what you're talking about is something  
8 that I have not seen recorded on the video. I have  
9 no opinion to that. I have no capability to prove or  
10 disprove that, because I don't see that on the video.

11 Q Well, but you're seeing at least a -- what  
12 we believe to be a silhouette now in that frame that  
13 you didn't see before at the same time that you see  
14 for the first time a specular highlight, right?

15 A Which has been defined prior to this  
16 instance as well.

17 Q So why aren't those two related as you said  
18 the leg was related? Why isn't the silhouette and  
19 the specular highlight related like you've indicated  
20 that the leg and the feet are related?

21 A Because to me it does not define itself as  
22 being -- appear to be related.

Page 418

1 recording, that's when you first see it. Are you  
2 speculating that something else happened before?

3 A No. What I'm saying is, is I can only  
4 speak to what is there.

5 Q Okay. So now you see -- now you see not  
6 only the silhouette coming out --

7 A No, we see the silhouette there.

8 Q Okay, the silhouette there.

9 A Yes.

10 Q And then you see the spectral (sic)  
11 highlight --

12 A Yes.

13 Q -- at the same time?

14 A They are in the same frame, correct.

15 Q And you're saying that you also are seeing  
16 what you believe was a leg movement at that time?

17 A In this frame, I see the spectral (sic)  
18 highlight, and I see this object, individual, yes.

19 Q You don't see a leg movement?

20 A Not in this one. You see it later as the  
21 video plays. That's why it's called movement and  
22 video.

Page 420

1 Q Why? But tell me why. You see it in that  
2 first frame. Why is it not related? Give me some  
3 scientific basis as to why they're not related.

4 A Because as you continue the video, as I've  
5 shown you several times, that specular highlight is  
6 still tied to the movements of that individual's leg.

7 Q Well, you would agree -- let's define here  
8 what we're --

9 A I'm not agreeing.

10 Q -- looking at. Let's hear what we're  
11 looking at. 13:26:25.412, that's what we're looking  
12 at when we first see the silhouette that's white --

13 A Yes.

14 Q -- and the first time that you see on this  
15 particular video the specular highlight, correct?

16 A This is where the start of the recording is  
17 in which those two objects are in the single frame at  
18 the same time, because there's no previous recording  
19 of it.

20 Q Well, is it because there's no previous  
21 recording or because it happened at that moment?

22 A I cannot define that, because --

Page 421

1 Q You can't tell.  
2 A -- it's a single image in time.  
3 MR. ESCOBAR: Okay. I don't have anything  
4 further.  
5 MR. MICHAELS: I'm done.  
6 MR. ESCOBAR: No further questions. It was  
7 a pleasure.  
8 THE COURT REPORTER: Would you want him to  
9 read?  
10 MR. ESCOBAR: You have the right to read or  
11 to waive the reading. They don't do these depositions too  
12 often. You have the right to read or waive the  
13 reading of this deposition --  
14 MR. EARL: I think --  
15 MR. ESCOBAR: -- at a later point in time.  
16 Well, let me explain it to him first so he can make a  
17 decision with you. You have the right to read or to  
18 waive the reading of this deposition at -- when it's  
19 transcribed into a readable form. You can't change  
20 your answers, but if for some reason you believe that  
21 this young lady took something down incorrectly, you  
22 certainly, you know, can make a notation on what's

Page 422

1 called an errata sheet that, hey, listen, you believe  
2 that she took something down wrong. And the beauty  
3 of this is that we have a recording, and we may have  
4 to employ a specialist to listen -- I'm just kidding.  
5 But we have a recording that can, you know, determine  
6 what you said. Okay?  
7 MR. EARL: I think we'll want to read it,  
8 yes.  
9 (Whereupon, the deposition concluded at  
10 4:27 p.m.)  
11 (Whereupon, Theater Cam 12 MOV Frames  
12 2,221-2,283/Theater Cam 11 MOV Frames  
13 2,615-2,625/Theater Cam 11 MOV Frames  
14 2,778-2,866 Photographs were marked  
15 Defendant's Exhibit Number 12 for  
16 identification.)  
17  
18  
19  
20  
21  
22

Page 423

CERTIFICATE OF NOTARY PUBLIC

1 I, Deanna A. Arend, the officer before whom the  
2 foregoing deposition was taken, do hereby certify  
3 that the witness was duly sworn by me; that the  
4 testimony of said witness was taken by me in  
5 stenotype and thereafter reduced to typewritten form  
6 under my supervision; that said deposition is a true  
7 record of the testimony given by said witness; that I  
8 am neither counsel for, related to, nor employed by  
9 any of the parties to the action in which this  
10 deposition was taken, and further that I am not a  
11 relative or employee of any attorney or counsel  
12 employed by the parties thereto, nor financially or  
13 otherwise interested in the outcome of the action.  
14  
15  
16

Deanna A. Arend, RPR  
Notary Public, State of  
Virginia at Large. My  
Commission expires June 30, 2020  
Notary Number: 131169

Page 424

AFFIDAVIT OF DEPONENT

1 I have read the foregoing deposition which  
2 contains a correct transcription of the answers given  
3 by me to the questions therein recorded, except as to  
4 errors which may be indicated on any attached errata  
5 sheet.  
6  
7  
8  
9  
10

Subscribed and sworn to before me this \_\_\_\_  
day of \_\_\_\_, 2017, in \_\_\_\_

Notary Public

My Commission Expires:

\_\_\_\_, 20\_\_\_\_

Page 425

1 ERRATA SHEET

2 Case Name: Florida v. Curtis Reeves  
3 Witness Name: Anthony Imel  
4 Deposition Date: 01/26/2017

5

6 Page No. Line No. Change

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Page 426

1 Anthony Imel  
2 c/o Bryan Earl, Esquire  
3 Engineering Research Facility  
4 Building 27958-A  
5 Quantico, Virginia 22135

6 IN RE: Florida v. Curtis Reeves

7 Dear Mr. Imel:

8 Enclosed for review is your condensed copy of  
9 the above-referenced deposition. Please read the  
10 copy of the transcript and sign the enclosed  
11 certificate.

12 Also enclosed is an errata sheet which you  
13 should use to note corrections and the reasons for  
14 such corrections. This and any additional errata  
15 sheets should be signed and dated by you.

16 You have thirty (30) days in which to read and  
17 sign the transcript. After you have reviewed the  
18 copy of the transcript, please return the certificate  
19 of deponent and any errata sheets to Commonwealth  
20 Court Reporters, Inc., P.O. Box 116, Fredericksburg,  
21 Virginia 22404.

22 Sincerely,

Deanna Arend

<p><b>A</b></p> <p><b>ability (11)</b> 71:9,14;175:7,9; 234:13;336:14;349:12; 353:12;396:5;411:10, 22</p> <p><b>able (41)</b> 26:21;52:6;65:6; 68:1;76:18;93:17; 94:22;105:10;106:19; 127:12;130:15;173:5; 186:9;187:3;188:6; 190:16;20;208:17,17; 209:8,17,22;210:4; 228:20,22;247:5; 251:14;263:9;269:17; 273:18;303:1;322:5; 327:7;346:2,5;348:15, 16;364:12;366:8; 368:15;382:14</p> <p><b>above (4)</b> 183:15;346:19; 374:15;375:7</p> <p><b>absolutely (2)</b> 292:1;294:6</p> <p><b>abusive (1)</b> 389:14</p> <p><b>Academy (3)</b> 12:20;13:17;26:2</p> <p><b>acceptable (1)</b> 291:6</p> <p><b>accepted (3)</b> 28:2,15;45:3</p> <p><b>access (6)</b> 77:19;83:10,10,11; 236:3;376:13</p> <p><b>accomplish (1)</b> 182:15</p> <p><b>according (1)</b> 317:8</p> <p><b>accreditation (3)</b> 9:6;10:19;135:10</p> <p><b>accredited (5)</b> 7:17;9:4,5;10:1,18</p> <p><b>accuracy (1)</b> 146:2</p> <p><b>accurate (17)</b> 76:15;137:22;138:6, 10,11;145:19;162:19; 213:14,20,21;214:4; 223:1,11,12,15;224:4; 310:18</p> <p><b>across (4)</b> 29:15;88:5;297:5; 366:15</p> <p><b>action (20)</b> 77:13;92:20;111:4; 120:20;121:10,15; 215:21;238:2;263:19; 268:14;278:15,16; 286:19;287:10;311:18;</p>	<p>359:18;360:12;374:4; 383:3;388:9</p> <p><b>actions (16)</b> 210:16,17;287:5; 292:5,15;311:21; 326:15,18;343:3; 361:11;373:7;377:10; 382:12;398:20;399:3; 400:4</p> <p><b>activated (1)</b> 132:10</p> <p><b>active (8)</b> 7:12;34:11,15;46:2, 2;169:3;325:14;336:21</p> <p><b>actively (1)</b> 199:16</p> <p><b>activity (1)</b> 173:6</p> <p><b>actual (31)</b> 9:16;10:4;53:22; 54:3;68:17,19;101:9; 104:5,10;111:14; 121:22;154:8;158:18; 168:10;200:3;215:11, 16;217:10;221:15; 262:13;267:16;279:4; 330:6;332:5,6;333:6; 356:12;392:1,3,5,19</p> <p><b>Actually (55)</b> 14:12;23:13,15;27:8, 10;28:10;31:12;38:1,7; 42:1;55:17;59:5;60:16; 66:22;69:10;98:13; 106:5;108:9;113:15; 131:9;137:1;143:22; 148:15;151:9;157:3; 158:15;167:3,13; 169:8;181:14;182:12; 199:19;205:6;206:1; 225:22;237:3;241:12; 250:14;277:18;278:21; 287:6;290:3,5;355:14; 356:6,7;368:21; 372:22;380:11;387:21; 393:1;397:11;406:5; 407:18;416:4</p> <p><b>add (3)</b> 144:6;176:1;313:21</p> <p><b>added (13)</b> 300:4;303:18; 304:17;305:15;306:3, 14;307:3,13;308:1,13; 309:2,20,21</p> <p><b>adding (1)</b> 178:5</p> <p><b>addition (4)</b> 63:10;136:12;149:3; 237:15</p> <p><b>additional (1)</b> 147:13</p> <p><b>add-on (1)</b> 175:21</p> <p><b>address (1)</b></p>	<p>26:7</p> <p><b>addressed (1)</b> 129:6</p> <p><b>adhere (1)</b> 66:11</p> <p><b>adhered (1)</b> 66:1</p> <p><b>adjective (4)</b> 296:3;298:22; 316:12;317:2</p> <p><b>adjust (11)</b> 108:6,12,17,19,20; 109:1;285:3,10,16; 309:9;313:20</p> <p><b>adjusted (4)</b> 257:21;280:12; 284:21;285:16</p> <p><b>adjusting (1)</b> 108:11</p> <p><b>adjustment (6)</b> 108:10,15;109:10; 309:10,20;331:10</p> <p><b>administrative (1)</b> 197:13</p> <p><b>administratively (1)</b> 197:16</p> <p><b>administrator (1)</b> 197:15</p> <p><b>admissibility (1)</b> 136:13</p> <p><b>ADO (1)</b> 323:18</p> <p><b>Adobe (26)</b> 15:18,20;16:1,2; 31:21;33:15;34:1,2; 49:18,19;103:13,14,14; 115:4;207:8;208:5,7; 284:3;307:7,19; 322:10,12;352:9; 357:15,18;386:12</p> <p><b>Advanced (7)</b> 14:15,22;15:6,19,20; 17:15,19</p> <p><b>advancing (1)</b> 18:7</p> <p><b>Aerial (1)</b> 36:4</p> <p><b>affect (2)</b> 261:20;262:17</p> <p><b>affected (1)</b> 363:11</p> <p><b>affiliated (2)</b> 22:11;126:6</p> <p><b>affiliation (1)</b> 126:8</p> <p><b>affiliations (2)</b> 52:17;54:9</p> <p><b>Africa (1)</b> 31:4</p> <p><b>Again (109)</b> 12:15;18:22;21:4; 27:8;33:1;52:18;68:3; 78:21;92:4,12;97:21;</p>	<p>102:2;109:2;112:15, 22;118:5;119:13; 120:17;121:4,7,19; 126:8,11;128:3,11; 139:6,15;149:7,20; 150:5;152:16;155:15; 156:8;158:11;160:9; 162:16;163:3;174:3,7, 8;181:11;191:6;196:7; 204:17;213:13;216:16; 217:3,12,21;218:5; 219:6;223:3,21;234:2; 235:21;237:1;238:1, 15,20;247:11;260:19; 261:18;263:3;265:10; 269:16;274:2;275:20; 276:15;278:16;285:16; 287:12;291:10;296:16; 304:6,18;305:5,7; 306:11;308:9,14; 320:16;324:3;325:17; 326:13;327:6;332:19; 347:19;349:8;351:2; 361:6,8;362:2;364:11; 365:1;371:14,14; 375:2,16;377:11; 394:5;395:22;397:7, 22;398:14;399:6; 401:20;413:15;414:19; 415:22</p> <p><b>against (2)</b> 64:13;357:21</p> <p><b>age (1)</b> 196:8</p> <p><b>agencies (1)</b> 33:13</p> <p><b>agency (1)</b> 41:17</p> <p><b>Agent (56)</b> 13:16,20;14:2,3; 22:5,19;24:14;27:17, 19;28:1,3,5,7,8,10,12; 29:6;30:3;31:14;33:2; 34:12,16;41:11,19; 45:7,9,15;70:7;131:16; 140:5,8,9,22;141:11, 22;145:13;150:19; 151:2;152:3,9,16,19, 21;153:1,2;155:7,16; 161:6,18;162:2,15; 164:7,16;250:17; 323:7;411:14</p> <p><b>agents (4)</b> 46:3;127:14;139:21; 140:3</p> <p><b>ago (8)</b> 114:14;125:3; 140:22;243:1;253:19; 289:3;316:13;327:19</p> <p><b>agree (24)</b> 100:22;131:19,20; 132:2;224:13,15; 296:6;300:10;301:14;</p>	<p>317:3;318:7,16; 327:11;328:7;341:17; 343:2,21;349:5; 368:13;369:14;374:19; 399:14;409:1;420:7</p> <p><b>agreeing (1)</b> 420:9</p> <p><b>ahead (11)</b> 236:7;239:17;240:4; 269:1;293:20;296:15; 303:3;314:9;358:3; 388:22;403:12</p> <p><b>Air (45)</b> 7:7,8,9,10,13;8:3,6, 11;9:4,9;10:3,19; 11:12,21;12:20,20; 13:19,21;18:2;19:21; 20:9;21:3;22:3,4; 24:16;26:2;27:21;29:4, 12;30:20;33:1,2;34:14, 14,16,19;35:6,10; 36:13;37:7,14,18; 45:10;344:16;411:13</p> <p><b>aircraft (3)</b> 20:8;25:10;26:7</p> <p><b>aisle (1)</b> 365:11</p> <p><b>Alabama (2)</b> 16:4;33:11</p> <p><b>alert (1)</b> 25:10</p> <p><b>algorithm (15)</b> 81:21;82:9,16;88:5, 6,10;89:11;91:9; 109:14;115:14,21; 117:1;320:21;357:6,9</p> <p><b>algorithmic (3)</b> 116:4;117:11;118:7</p> <p><b>algorithms (12)</b> 64:6,8;81:20;83:9; 85:2;101:4,9;103:4; 112:15;113:16;114:16; 116:14</p> <p><b>align (2)</b> 336:17;366:9</p> <p><b>alignment (1)</b> 358:19</p> <p><b>alleged (4)</b> 186:2;245:3;278:14; 384:7</p> <p><b>allegedly (1)</b> 165:14</p> <p><b>allow (17)</b> 10:20;67:16;70:10; 100:6,11;130:15; 150:5;167:14;251:13; 310:4;324:3;350:19; 352:2,11;365:6; 366:15;384:6</p> <p><b>allowed (13)</b> 16:8;51:16;54:21; 149:6;154:6;170:4; 194:4;206:21;207:15;</p>
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325:12;326:4;376:13; 409:9	364:11;384:5;399:15	178:19;220:18;222:3; 14,15;223:8;224:11; 229:4;231:14;237:10; 16;239:18;240:15; 247:10,15;249:12; 259:22;260:19,19,20; 261:7;262:13,15; 264:8,11,14,15,19; 268:4;287:9;288:16; 329:17;341:16,18; 343:15;361:18;365:12; 370:7;373:10;376:6; 393:15,17;404:20; 407:5;412:13,18; 413:16;414:19;415:1	20,21;121:13,14,16,16; 128:5;144:22;159:8; 15,19;160:8,12,17; 167:10;169:22;171:8; 9,11,16;172:2;182:18; 186:18;187:22;188:18; 229:17;233:13;235:21; 249:6;250:8;273:15; 16;280:19;281:3; 284:11;297:2,10,17; 298:3;299:4;300:1; 319:15;328:20;340:16; 19;341:1;342:12,20; 343:7;345:6,8;347:22; 349:10;351:10,22; 352:2;361:20;362:1,5; 6,9;364:17;365:3; 367:20;369:14;370:1; 1,8;375:9,13;379:16; 21,22;380:14;394:17; 395:4,7;398:15;400:6; 403:17	articles (7) 55:11;77:8;78:15,18; 79:7,9;321:17
allows (9) 65:11;90:19;109:14; 154:22;181:20;269:18; 327:20;335:8;414:13	analyst (7) 15:22;33:9,16;34:3; 56:16;58:19;126:15	apples (4) 325:17;379:19; 391:9,11	areás (45) 25:11;27:14;53:2; 63:6;65:1;86:3;159:8; 161:11,13,15;162:4,5; 172:14;173:12;185:3; 6;189:6,15;193:9; 195:13;201:1,8,12,22; 203:19;205:12,14,20; 213:6;233:5;249:3; 250:18;260:9,13,14; 274:16;303:14;304:10; 305:7;313:19;319:17; 343:9;360:14;366:12, 13	Asia (1) 31:4
alluded (1) 210:7	analyze (4) 208:16;244:11,13; 251:6	application (1) 28:2	argue (2) 254:19,20	aside (3) 147:22;150:7,17
almost (1) 10:5	analyzing (1) 90:20	Applied (62) 8:14;18:18;19:4,17; 21:6,9;45:3;109:19; 257:20;258:9;279:19; 280:7,10;283:20; 284:1,13,16,18;285:3, 10,17;295:1;297:3,8, 11,16;298:4;299:3,5, 22;300:2,3;303:16; 304:12,13,15,16;305:8, 11,12;306:2,2,12,13, 14;307:1,2,10,11,12, 22;308:9,10,11,12,21, 22;309:8,16,17,19,19	arm (4) 361:19,19;404:20; 407:5	aspect (13) 74:6;87:4;96:18; 106:2;113:22;174:4; 195:17;206:16;220:22; 221:3;330:5,5;383:20
along (2) 147:9;229:13	angle (9) 230:18;231:4; 278:19;341:13;374:5, 6,7;398:6,7	apply (9) 99:11,13;105:17; 126:20;279:12;280:1; 297:1;298:2;315:12	Army (1) 36:5	aspects (7) 70:21;85:18;114:20; 121:10;175:18;221:2; 333:4
alt (1) 108:9	angles (3) 77:21;373:21;374:3	applying (2) 19:1;104:20	around (17) 27:5,12;44:16;108:1; 121:12,12;122:17; 187:12;188:19;227:7; 244:10;247:13;325:5; 330:11;367:20;374:12; 380:1	assertion (1) 109:17
alter (4) 97:2;98:10;138:3; 145:21	ankle (1) 385:4	approached (1) 189:2	array (2) 108:4;315:8	assets (1) 20:8
alterations (2) 76:16;97:4	answered (12) 126:12;354:13; 355:20;388:21;389:10; 390:4,6,7,8;409:12; 411:4;414:18	approaching (1) 188:8	argumentative (1) 389:14	assigned (7) 16:12;21:2,7;22:21; 60:5;133:4;249:1
altercation (13) 77:16;141:7;142:11; 143:20;144:11,13; 152:13;172:3;173:1; 299:8,19;337:14;365:5	ANTHONY (4) 4:2,11,20;133:3	appropriate (1) 110:11	arm (4) 361:19,19;404:20; 407:5	assignment (1) 358:21
altered (2) 77:16;154:9	Antiterrorism (2) 60:22;61:3	approved (1) 19:13	Army (1) 36:5	assignments (1) 22:21
Although (3) 309:8;311:5;341:22	Antonio (9) 33:1,12;34:11,16,21, 22;35:3,4,8	approximate (1) 337:9	around (17) 27:5,12;44:16;108:1; 121:12,12;122:17; 187:12;188:19;227:7; 244:10;247:13;325:5; 330:11;367:20;374:12; 380:1	Assistance (1) 60:22
always (8) 90:19;93:8;98:13; 196:8;226:10;290:11; 291:7;410:15	anymore (3) 15:11;92:10;219:14	approach (1) 189:2	array (2) 108:4;315:8	associated (1) 405:4
amazing (1) 389:4	anyways (1) 206:14	approaching (1) 188:8	argue (2) 254:19,20	Associate's (11) 8:14;16:22;17:10; 18:18,19;19:3;20:16; 21:14;22:2;57:19,20
American (1) 52:22	apart (2) 21:11;291:16	apply (9) 99:11,13;105:17; 126:20;279:12;280:1; 297:1;298:2;315:12	arm (4) 361:19,19;404:20; 407:5	Association (5) 43:1;52:19;61:13; 123:14;124:22
amongst (2) 121:11;399:22	apologies (3) 149:2;215:17;294:13	applying (2) 19:1;104:20	arend (1) 4:3	assume (3) 90:1;289:15;417:21
amount (6) 115:18;196:21; 216:20;219:5;289:5; 354:8	apologize (2) 316:12;371:9	approached (1) 189:2	argue (2) 254:19,20	assumption (1) 301:19
Amped (4) 63:3,12,13,16	Apparel (1) 52:22	approaching (1) 188:8	arm (4) 361:19,19;404:20; 407:5	Assurance (1) 50:5
analog (6) 29:18,20;32:16,19; 81:10;124:3	appear (36) 8:13;53:12;177:19; 178:21;220:9,12,19,21; 221:4,22;223:1,3,6,11, 12,15;224:4,14;229:9; 234:8;240:14;261:6; 265:8;271:15;290:21; 376:4;381:14,19; 413:11,15;414:1,2,3,5, 14;419:22	appropriate (1) 110:11	arend (1) 4:3	attach (4) 253:4;254:4,17; 255:19
analysis (56) 73:17;74:9;85:21; 87:16;89:14,16,17; 90:12;92:8,14;99:10; 120:13,18,19,20; 126:22;127:1;128:2; 133:3,5;135:7,19; 161:9;195:5,6,21;17; 242:18;251:3,7,11; 280:15;285:22;288:9; 291:15;317:10,12; 318:14;319:6,13,20; 321:7,13,21;323:17; 339:21;340:8;347:20; 348:20;353:9,11; 357:2,3;363:17;	appearance (1) 188:2	approved (1) 19:13	arend (1) 4:3	attached (3) 253:1;254:11;331:19
	appeared (8) 220:22;221:3; 228:22;352:1;362:6,8; 382:1;415:11	approximate (1) 337:9	arend (1) 4:3	attaching (1) 256:3
	appearing (3) 244:13,15;251:4	approximately (2) 7:15;26:20	arend (1) 4:3	attachments (1) 270:1
	appears (58) 6:21;7:14;21:18; 40:18;46:18;74:19; 146:15;158:13;162:19;	approximation (1) 337:10	arend (1) 4:3	attacking (1) 251:9
		April (8) 21:21;23:8;38:2,3; 129:6;146:16;147:11; 197:22	arend (1) 4:3	attempt (5) 5:3;85:15;234:19; 348:21;350:21
		area (96) 25:3;36:8;86:4,7; 92:20;104:5,18; 106:20,21;107:18,20, 21,22;108:1,2;109:17,	arend (1) 4:3	attempted (6) 123:21;124:10; 165:2;340:8;348:11; 363:18
			arend (1) 4:3	attended (3)

7:7;54:9,10 <b>attention (2)</b> 265:20;339:20 <b>audio (12)</b> 14:6;23:22;25:2; 33:16;42:6,10,16; 43:11;47:17,19;161:8; 323:17 <b>audio/video (1)</b> 14:5 <b>August (16)</b> 24:13;40:17,22; 43:21;44:11,12,13; 45:6;46:19,19;50:3; 52:3;54:4;122:14,18, 22 <b>authentic (3)</b> 133:7,9;312:4 <b>authenticate (3)</b> 76:22;195:4,9 <b>authenticated (1)</b> 136:19 <b>authenticating (3)</b> 128:9;195:11;198:6 <b>authentication (7)</b> 128:7;194:22;195:1; 196:14;197:3;198:2,3 <b>Authenticity (12)</b> 76:5,6,13;77:8,9; 78:20;79:4,7,20;80:4; 212:6;312:2 <b>authored (3)</b> 78:15;147:10;402:3 <b>authorization (1)</b> 146:13 <b>authorized (2)</b> 70:17,20 <b>automatically (2)</b> 44:15;157:5 <b>available (4)</b> 30:12;91:5,6;224:21 <b>AVI (10)</b> 91:4;100:13;168:2; 169:2;190:20;191:2; 192:18;194:4;206:2; 207:5 <b>Avid (1)</b> 125:11 <b>AVIs (1)</b> 193:3 <b>awarded (1)</b> 9:7 <b>aware (7)</b> 113:8;165:6,15; 198:9;320:7,21;321:18 <b>away (7)</b> 26:14;62:3;344:5; 374:14;382:12;407:4, 11 <b>axis (2)</b> 84:1;341:7	<b>B</b> <b>Bachelor's (5)</b> 21:14,15;57:7,12,16 <b>back (109)</b> 6:22;27:1,2;30:16; 31:10;32:11;33:20; 34:11;36:13;41:16; 45:22;46:9,10;50:16; 21:52;18;53:21;60:12; 62:22;68:11;73:9,14, 18;78:12,21;80:5; 81:14;83:12;90:19; 93:8;94:8,17;95:1; 96:9,20;97:12;100:4, 15;111:16;116:15; 122:16;128:19;129:18; 140:15,20;147:6; 151:5;153:14,16; 154:12;156:9;163:18; 166:1;167:10;173:9; 174:7;180:12,13; 187:15;188:11;190:17; 191:12;193:3;196:8; 197:10;208:15;210:11, 11;211:4;221:10; 226:16;228:3,3,10; 229:13;230:5;237:13; 239:15;258:5;261:4; 264:3;266:6;270:13; 287:2;290:11;304:9; 314:21;315:1;318:5; 335:8;336:20,21; 337:1,3,7;340:6; 341:19;344:4;346:7; 347:17;356:3;377:2; 390:6;398:1;400:8; 404:9;407:14;408:21; 415:6 <b>backbone (2)</b> 25:1;27:8 <b>backdrop (2)</b> 193:4;212:13 <b>background (4)</b> 127:1,2;135:4; 302:22 <b>backrest (1)</b> 233:16 <b>back-step (1)</b> 100:13 <b>back-stepping (1)</b> 173:1 <b>backtrack (3)</b> 94:22;186:2,10 <b>backtracked (2)</b> 185:22;187:21 <b>backwards (4)</b> 226:1,3;245:11; 348:8 <b>bad (1)</b> 173:22 <b>bank (3)</b>	59:14;337:4;345:19 <b>Base (24)</b> 11:12,21,21;12:20; 20:7,8,9,10;25:9,10; 29:4;30:20;33:1,2,9; 34:15,16,19;35:6,8,11; 36:14;221:2,4 <b>based (8)</b> 33:10;130:8;162:8; 10;302:13,16;375:22; 411:22 <b>basic (21)</b> 8:22;12:14;13:6,17; 16:15;19:22;25:18,19; 31:19;41:16,18,19; 72:6;80:5;89:18,21; 93:19;125:13,15; 271:20;322:5 <b>basically (45)</b> 11:8;25:5;26:16; 27:12;32:12;33:5; 41:19;49:14;55:9; 74:17;82:4;105:11,22; 108:7;109:13;112:1; 121:2;123:17;134:11; 168:11;170:3,5; 171:16;176:1;182:4, 17;187:21;193:9; 195:17;197:6;210:9; 211:21;212:13;228:16; 259:6;309:14;318:11; 322:5;324:5;341:10; 344:17;373:3;378:4; 410:15;412:5 <b>basing (1)</b> 385:9 <b>basis (27)</b> 8:2;53:15;65:18; 72:14;102:12;110:12; 189:20;223:5,5; 299:11;300:12;301:16; 302:16,22;317:6; 319:6,12,19;320:7,9, 12,13;321:12;390:17; 396:10;397:5;420:3 <b>Battlelab (3)</b> 34:13,18;35:17 <b>beauty (1)</b> 422:2 <b>became (10)</b> 25:14;28:6;30:3; 36:5,12,18;38:21; 60:17;168:3;193:6 <b>become (7)</b> 27:22;28:4;48:8; 60:17;64:22;125:7,8 <b>beforehand (1)</b> 260:15 <b>beginning (3)</b> 151:1;245:2;258:7 <b>behalf (2)</b> 4:2,12 <b>behind (3)</b>	100:18;161:21;193:4 <b>BEK (12)</b> 147:20;148:10; 149:5,20;150:15; 286:1,2,17;287:1,15, 19;289:10 <b>Bellevue (2)</b> 22:7,13 <b>below (6)</b> 322:17;342:13; 364:16;373:17,18; 374:15 <b>benefit (1)</b> 399:8 <b>benefits (1)</b> 399:7 <b>benign (1)</b> 301:5 <b>bent (4)</b> 350:3,9,11,13 <b>best (11)</b> 64:14,19;77:5;95:1, 4;118:9;135:16; 143:15;198:12;207:11; 310:17 <b>better (12)</b> 64:9;66:7;106:4; 120:16;200:17;240:13; 244:20;274:4;310:5, 10;331:21;344:10 <b>beyond (15)</b> 52:14;111:3,12; 161:17;215:1;232:5; 234:5;243:8;251:6; 296:16;326:22;376:15; 382:8;401:4;403:5 <b>bias (2)</b> 66:5,6 <b>Bicubic (7)</b> 118:22;119:1,4,17; 257:22;259:2;280:13 <b>big (9)</b> 6:1;32:16;47:11; 179:11;189:20;267:8, 9;367:17,18 <b>bit (36)</b> 5:9;6:13;7:22;8:1; 32:10;33:7;39:3;46:6; 47:13;48:4;62:16;90:7; 158:5;163:20;180:4; 183:16;191:21;204:21; 211:8;214:5;228:11; 230:8;234:20;239:9; 255:17;258:6;268:2; 269:19;272:14;276:22; 285:9;286:19;316:9; 343:16;361:2;412:17 <b>bit-for-bit (1)</b> 98:3 <b>black (55)</b> 105:19;106:9,12,12; 118:11,13,17;199:22; 212:16;219:2;259:1;	262:20;280:12;285:18; 297:3,11;298:4;299:6; 300:4,5;303:18;304:1, 18,22;305:15,19;306:3, 4,7,13,15,15,20;307:3, 4,6,12,14,17;308:1,2,5, 11,13;309:3,22; 320:13;321:8,9,11,15; 322:13,17;329:1,7 <b>Blackmagic (6)</b> 284:3;303:6;304:2; 305:20;306:8;308:6 <b>blank (4)</b> 93:3;303:14;304:10; 305:7 <b>blends (1)</b> 48:4 <b>blip (1)</b> 332:4 <b>blob (2)</b> 334:20;335:20 <b>block (2)</b> 329:15;367:19 <b>blocks (2)</b> 182:17;329:13 <b>blow (1)</b> 329:18 <b>blown (1)</b> 36:7 <b>blue (5)</b> 87:1;182:7;308:18; 309:1,18 <b>BMP (4)</b> 98:18,22;99:1; 365:22 <b>board (1)</b> 125:4 <b>bodily (1)</b> 130:9 <b>body (16)</b> 159:14;249:13; 335:10,16,17;350:4; 351:11,17;365:17; 384:15;385:5,6;388:3; 390:19;391:2;405:20 <b>Bomber (1)</b> 409:9 <b>books (3)</b> 37:22;78:15,19 <b>border (1)</b> 26:15 <b>bored (1)</b> 270:3 <b>bosses (1)</b> 125:15 <b>Boston (7)</b> 44:3;167:19;183:9; 390:22,22;391:8;409:8 <b>both (63)</b> 5:16;18:18;21:7,9; 43:2;44:10;47:10,22; 52:9,10,11;59:3;74:10; 80:1,13;82:18;135:21;
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156:18;164:6,11; 168:14;172:2;190:20; 192:16,20,21,22;193:1, 8,14,15;200:18;205:6; 216:9,10;224:19,22; 225:13;244:12;250:16; 284:22;286:15;294:11, 22;296:22;297:8,15; 298:1;299:3,22; 303:11;305:4;308:19, 20;355:4,8;372:15; 382:2;386:19;398:7; 408:19;412:22;415:16	333:19,20,22;352:8,12; 355:15,18;357:3; 368:6,8;371:19; 375:19;381:16,20; 382:2;413:13 <b>bring (9)</b> 19:15;64:10;111:16; 126:19;160:11;191:15; 223:3;228:10;259:14 <b>bringing (1)</b> 95:6 <b>British (1)</b> 68:10 <b>broke (1)</b> 250:18 <b>brother (8)</b> 391:3;409:14;410:6, 7,13,14,14,16 <b>brought (8)</b> 23:4;28:1;36:5; 62:21;206:6;207:8; 341:6;383:6 <b>Bruce (3)</b> 77:22;125:20;126:6 <b>Bryan (4)</b> 129:7;130:12,14; 138:20 <b>BS (1)</b> 57:15 <b>Bucenell (4)</b> 140:5;161:6;162:15; 323:8 <b>B-u-c-e-n-e-l-l (1)</b> 140:9 <b>buffer (1)</b> 100:18 <b>build (1)</b> 300:17 <b>building (1)</b> 302:18 <b>bulk (1)</b> 127:16 <b>bunch (1)</b> 69:16 <b>Bureau (2)</b> 126:18;127:3 <b>Bureau's (1)</b> 127:4 <b>burned (3)</b> 176:7,9,21 <b>burned-in (1)</b> 176:12 <b>burnt (2)</b> 176:6,21 <b>Business (1)</b> 4:8 <b>button (1)</b> 108:9 <b>buy (1)</b> 64:1 <b>buying (2)</b> 188:9,17	<b>C</b> <b>calculation (2)</b> 7:19;352:6 <b>California (3)</b> 28:20;29:3;61:18 <b>call (19)</b> 63:2;84:7;89:8; 99:15;100:20;104:7; 173:19;227:16,17,18; 240:1,3;242:1;282:2; 352:9;402:8,9,11,11 <b>called (23)</b> 14:12;25:8;26:17; 38:7;42:5;46:1,3;47:3; 75:21;84:5;87:19;89:5; 90:12;92:15;109:5; 117:18;145:13;153:2; 168:8;207:4;214:15; 418:21;422:1 <b>calling (1)</b> 354:19 <b>calls (3)</b> 49:1,6,7 <b>Cam (3)</b> 422:11,12,13 <b>came (18)</b> 29:15;32:18;34:4; 51:17;56:5;76:19; 150:22;151:1;173:2; 185:22;219:21;226:16; 255:15;314:21;315:1; 340:14;349:10;370:14 <b>camera (144)</b> 67:20,21;68:5;76:17; 81:5;91:6;96:11;143:8, 10,12,13,14;156:8; 169:5,6;172:15;174:6; 179:5;181:8;184:16, 16,17,19;185:9,9,10, 11,12;186:11,12,18; 187:3,4,10;188:20,22, 22;193:22;194:1; 203:5,12,12;204:9; 210:14;216:7,14; 217:4,5,10,12;220:7; 221:18,18;222:22; 225:11,12,20,22;226:9; 231:3,4,9;243:15; 257:18,18,19;261:22; 262:2,4,14,16;270:11, 12,13,19;272:21,22; 273:1,2;276:7;277:12; 278:14,19;280:20; 282:16,19;285:3,17; 295:3;296:19;297:4, 19;298:5;299:7,18; 303:5,5,16;304:5,12, 14,16,17;305:6,8,11, 13,14,19,21;306:6,9, 19,21;307:6,8,17,18; 308:5,7,17,17,22;	309:5,8,11,16,18; 334:15;335:12;336:17; 337:1;373:14,21; 374:6,7,18;380:13; 383:7;397:14;398:3,5, 6,6 <b>cameras (42)</b> 67:20;68:1;76:19; 82:8;143:9;155:18; 159:7;162:17;170:3, 14;184:1,6,8,15,18; 190:19;198:20;203:9; 205:6;216:21,21; 217:1,2,3;223:1,10; 230:8;270:18;284:20; 285:15;303:8,12,18; 304:8,13,22;305:3,10; 308:16,20;309:14; 408:22 <b>Camp (1)</b> 26:11 <b>can (275)</b> 5:8,9;7:3,5;8:8; 10:12;15:1;17:4;24:7; 25:16;44:8;48:18;49:3; 64:2,12,14,20;65:10, 18;66:19;67:5,21;68:3, 8;69:10;71:3,4;72:3,3, 8,12;73:2,3,8,13,21; 74:15,19;75:19;81:13; 84:2,4;86:21;91:8,17; 93:8,19;94:18;95:5,20; 96:15;98:7;99:11; 100:16;105:21;107:18, 19;108:1,2,5,11; 110:19;121:11;126:21; 128:13,14;129:20; 141:14;142:16;143:7; 144:18;146:14;151:7; 154:8;156:9;160:20; 161:20;163:19;166:3; 16;167:15;168:10,17; 169:1,3,4,8,9,11;174:3, 5;175:17,18;176:3; 178:10;179:4;180:19, 20,20;181:4,16,17; 183:7;184:11;187:12; 189:11;192:16;193:20; 195:12;199:19,20,20; 205:16;206:1,4; 210:19,19;211:4; 212:10,12;216:15,19; 218:6;219:3,5,19,19; 221:10,17;224:7,22; 225:8;226:20;227:7, 17;228:9;230:4;234:4, 5,15;235:21,22;236:1, 3;240:19;241:7; 246:21;247:1,7; 251:20,20;256:19; 259:7;263:21,22,22; 264:1;265:2;266:5,15; 268:12,19,22;269:8,22;	270:13,14;271:4; 272:1;273:22;274:7; 277:2;278:4;279:5,5, 15,22;288:1;290:8,10; 293:11,13;296:4; 298:15;299:1;300:17; 312:18;313:6;317:3; 318:7;319:1,8,9;322:3; 324:18;325:6,19; 326:6,8,16,16,17,19, 20;328:7;331:11,12, 21;333:8,21;335:18; 336:19;337:1,3,5,8; 339:22;342:22;343:6, 12,17,21;344:6,10; 345:13;346:8,15; 349:1,5,14,16;352:10; 354:1;356:3;359:8,17; 364:7;365:7;368:13; 370:7;372:22;373:3; 374:19;375:18;383:8; 384:10,19,19;385:7,13; 387:8;389:1,13,16; 391:7;396:13,14; 398:4;399:9,9,14; 400:15;401:20;404:2; 405:2,6,18;407:3; 411:15,18;414:11; 418:3;421:16,22;422:5 <b>capabilities (14)</b> 19:20;20:2;24:1,21; 66:8;74:20;77:15,21; 99:12;125:17;181:13; 197:12;218:16;324:2 <b>capability (11)</b> 35:22;36:2;80:15; 94:12;181:14,15; 289:6;310:17;348:5; 399:12;419:9 <b>capable (2)</b> 144:7;207:11 <b>capacity (2)</b> 40:8;56:7 <b>capture (13)</b> 93:16,20,22;94:4,20; 96:19;98:4,5;195:15, 16;218:5;371:4;380:14 <b>captured (9)</b> 72:17;96:21;130:5; 216:21;290:15;370:9, 10;371:18;415:18 <b>captures (1)</b> 100:17 <b>capturing (4)</b> 98:6;100:17;231:2; 262:17 <b>care (9)</b> 27:9,11,13;29:8; 31:2;33:3;343:4,7; 399:8 <b>career (5)</b> 10:14;18:7;23:1; 28:18;65:2
---	--	--	--	---



<b>careers (1)</b> 23:14	<b>centered (18)</b> 294:10,21;296:22; 297:7,15,22;299:2,21; 303:12;304:8;305:6; 306:1,12;307:1,10,22; 308:9;369:3	113:17,20;114:1; 132:10,11;138:12; 154:3;179:10,22; 180:5,9;181:6;261:1; 276:20;281:4;292:16; 20;348:4;365:8; 374:13;375:11;421:19	344:11;358:18 <b>chose (7)</b> 192:22;208:7; 301:13;355:22;356:9; 10;360:14	<b>cloning (2)</b> 97:9,15 <b>close (8)</b> 61:11;96:14;101:12; 106:9;208:14;345:12; 395:4;407:1
<b>carpets (1)</b> 74:16	<b>Central (2)</b> 33:4;37:2	<b>changed (8)</b> 154:9;165:22; 257:21;258:22;275:6; 7;280:11;317:19	<b>chosen (1)</b> 342:21	<b>closed (1)</b> 91:14
<b>carried (3)</b> 135:8;165:10,11	<b>certain (25)</b> 10:19;70:21;73:18; 74:1;76:17;85:18; 109:20,20;112:8; 115:18;116:9;118:6; 126:20;169:11;175:18; 209:2;216:17;250:17; 259:13;320:20;326:9; 360:8;399:22;409:11; 412:10	<b>changes (3)</b> 114:1;242:8;375:17	<b>Christopher (1)</b> 197:22	<b>closed-circuit (1)</b> 336:16
<b>carry (1)</b> 45:16	<b>certainly (15)</b> 79:14;107:10;161:4; 164:4;198:11;224:13; 227:12,14,22;263:8; 301:14;302:6,10; 409:2;421:22	<b>changing (18)</b> 105:14;109:22; 110:2,4,5,9,15;111:4,6; 113:21,21;120:3,4; 124:6;180:3;259:5; 374:9,10	<b>CIA (2)</b> 14:13;29:13	<b>closest (2)</b> 106:18;107:1
<b>case (64)</b> 29:15;40:2;60:5; 64:12,12;96:13;106:8; 122:1;130:1,18;131:4; 15,16;133:4;134:1,4; 136:5;139:2,11,21; 140:3,4,8,9,22;141:11, 21;145:13;146:17,21; 150:13,19;151:2; 152:3,8,16,18;153:22; 154:18;155:1,7,16; 159:11;161:17;162:1, 2;164:6;183:9;242:2; 250:17;324:9;327:10; 328:5;329:11;331:4; 348:21;400:3;401:15; 402:1,2,7,18;409:9; 411:18	<b>certainty (2)</b> 370:6;396:11	<b>chapters (1)</b> 169:8	<b>CinéBistro (4)</b> 229:17;233:13,17; 260:3	<b>clothing (3)</b> 74:15;86:22;188:4
<b>cases (5)</b> 64:3;125:17;154:15; 161:19;409:20	<b>certificate (4)</b> 9:3;13:16;48:12; 53:6	<b>charge (1)</b> 36:22	<b>circles (1)</b> 121:12	<b>Cloud (1)</b> 26:12
<b>casework (2)</b> 65:4,5	<b>certificates (1)</b> 33:21	<b>chart (72)</b> 331:20;337:7;338:3, 8,12;348:12,14,18,19; 349:15;351:7;353:18; 358:4,6,11,11,12,16,17, 22;359:5,16,21;360:1, 10,16,18,19,20;361:5, 16,17,20;362:21; 366:11;367:7,8,11,15; 368:16,20,22;369:14, 14;370:10,18,22;371:8, 8,9;372:1,2,7;374:6,7, 20;375:1,1;378:7,22; 379:3,7,8,9;381:7; 393:22;394:4,5,7,9,10; 403:15	<b>circular (1)</b> 354:18	<b>club (1)</b> 167:20
<b>cast (1)</b> 373:16	<b>certification (32)</b> 48:7,9,16;49:2,7; 50:6,11;51:9,14,19,22; 52:13;53:9,15;54:17; 55:20;56:3;59:2,4; 61:9;62:8,16;76:9; 82:21;124:11,14,20; 125:1,4,4,12,13	<b>charts (8)</b> 331:15,16;366:21; 375:15,18,22;386:1; 416:10	<b>circumstances (2)</b> 115:1;116:10	<b>Cobb (2)</b> 165:9,10
<b>catch (1)</b> 316:10	<b>certifications (4)</b> 19:10,13;52:17; 62:11	<b>check (6)</b> 33:21;50:1;157:4,9, 11;357:21	<b>Civil (1)</b> 254:9	<b>coincide (6)</b> 91:20;344:18;365:4; 375:3;376:6;400:20
<b>caught (4)</b> 38:17;75:17;316:12; 317:2	<b>certified (30)</b> 47:22;48:2,5,18,22; 52:6,10,20;53:10;54:7, 12,21;56:7;59:6;64:22; 71:6;76:8,10;82:18,20; 123:19,21;124:10; 125:7,8,9,10;206:17, 18,21	<b>checked (1)</b> 197:17	<b>civilian (1)</b> 36:21	<b>coincided (1)</b> 377:6
<b>cause (2)</b> 409:2;414:12	<b>certification's (1)</b> 125:16	<b>checkerboard (1)</b> 118:10	<b>clarified (2)</b> 237:22;398:21	<b>coincides (6)</b> 375:14;377:20; 387:22;400:16;406:3; 414:17
<b>caused (3)</b> 46:9;372:15;386:21	<b>chain (4)</b> 77:13;135:12; 164:20,21	<b>chest (2)</b> 350:7;400:19	<b>clarity (1)</b> 311:8	<b>collect (1)</b> 155:8
<b>causes (2)</b> 261:8,9	<b>chair (5)</b> 296:20;297:20; 298:5;335:13;355:6	<b>chief (6)</b> 36:13,18,20,20,21; 58:18	<b>class (3)</b> 8:5;10:1;75:22	<b>collected (13)</b> 152:13;153:6,13,15, 19;155:14,17;164:8,9, 17;165:2;203:2,18
<b>caution (1)</b> 337:20	<b>chance (1)</b> 95:6	<b>child (1)</b> 76:20	<b>classes (5)</b> 7:11;10:4,14;21:9; 23:5	<b>collecting (2)</b> 219:4;315:3
<b>CCTV (9)</b> 14:4;43:11;86:15; 87:2;132:19;216:21; 217:2;336:15;411:15	<b>change (28)</b> 97:21;103:4;104:10; 105:10;106:2;110:14;	<b>choose (2)</b> 192:20;344:15	<b>classroom (1)</b> 9:16	<b>collection (8)</b> 142:11;145:14; 152:7,17;153:3,17; 164:11,12
<b>CEA (1)</b> 29:13		<b>choosing (2)</b>	<b>clean (1)</b> 337:2	<b>college (7)</b> 7:9,11;9:4,5,12,16; 21:4
<b>cell (4)</b> 232:18,20;399:16,18			<b>clear (12)</b> 69:16;114:21; 126:13;215:20;224:1; 243:10;252:21;265:19; 267:16;346:3;378:19; 397:18	<b>color (26)</b> 86:13,14,15,18,20, 21;87:4;110:4;247:6; 262:18,19;297:3,11; 298:4;299:5;300:3; 306:3,13;307:2,12; 308:1,11;329:1,3,3,4
<b>Center (30)</b> 4:8;11:16;14:13; 15:12;31:16;32:5;53:2; 108:8;319:13;327:5; 330:9,11,15,18,18; 331:1;334:17;338:15, 16;354:16;355:21,22; 356:1,3;357:3,8; 367:21;368:5;369:5,6			<b>clearer (2)</b> 5:9;274:17	<b>Colorado (3)</b> 12:20,21;26:2
			<b>clearly (3)</b> 262:2;342:2;404:12	<b>colors (3)</b> 106:3;115:9,12
			<b>CLEP (1)</b> 16:14	<b>coming (13)</b> 25:3;125:5;188:10, 16,17;205:10;210:11; 324:19;325:3;327:9; 384:11;404:19;418:6
			<b>click (4)</b> 215:11;225:6,10,12	<b>comma (2)</b> 24:14;151:16
			<b>clip (2)</b> 287:5,5	<b>commas (1)</b>
			<b>clone (9)</b> 96:21;97:2,17; 157:20,21;158:11,19; 196:5,11	
			<b>cloned (4)</b> 96:18;97:8,13;158:2	
			<b>clones (1)</b> 191:14	



226:17  
commencing (1)  
4:6  
comment (1)  
237:21  
commercial (1)  
30:11  
commercially (1)  
30:12  
commission (1)  
130:10  
Commonwealth (1)  
4:4  
communication (13)  
20:3;25:5;26:13,16;  
141:11,16,21;159:15,  
20;160:2;161:7;  
323:11,12  
communications (8)  
11:10;17:11,13;  
24:17,20;25:2;26:6;  
27:11  
community (5)  
7:9;9:12,16;21:4;  
198:13  
companies (2)  
64:7;165:5  
company (8)  
39:14,17;41:4;44:2;  
52:22;53:1;165:7,8  
comparative (1)  
361:12  
compare (5)  
200:9;344:13;  
346:10;355:2;391:7  
compared (12)  
76:16;111:14;139:7;  
162:17;166:19;221:16;  
286:5;340:17;342:17,  
18;346:13;385:21  
comparing (1)  
321:1  
comparison (23)  
61:15;74:9;75:2,8;  
80:4;85:21;120:19;  
185:21;224:16;268:9;  
285:22;342:4,16;  
343:22;349:9;351:1;  
352:3;358:17;359:6,  
16;360:7;362:9;363:7  
comparisons (1)  
74:10  
compiled (1)  
136:2  
completed (3)  
20:20;24:4;146:21  
completely (10)  
67:4;93:3;216:5;  
325:10;326:2;329:4;  
349:22;351:18;375:20;  
410:13  
complies (1)  
239:10

complying (1)  
336:7  
component (3)  
60:6;219:2,3  
components (3)  
12:11,16;35:18  
Composite (5)  
6:18;129:3;147:3,14;  
151:13  
compress (4)  
95:10;99:5;166:10;  
218:6  
compressed (2)  
218:8;219:17  
compressing (1)  
95:8  
compression (6)  
154:10;166:8;218:2,  
15,20,22  
compromise (1)  
95:17  
computation (2)  
116:1;323:2  
computer (32)  
14:19;26:5,9;35:13;  
39:12;40:4,6;64:6;  
81:16,20,21;85:1,8,17;  
97:18;105:16;110:13;  
114:16;115:14,17,19;  
158:2;191:19,22;  
192:1,10;206:3;257:6;  
267:17;310:6,13;  
357:12  
computers (2)  
14:20;81:13  
conceivably (1)  
345:2  
concept (4)  
113:22;374:16;  
375:5,18  
concern (6)  
165:17,19,21;  
249:18;372:13;373:1  
concerned (2)  
116:5;166:11  
concerning (16)  
70:11;137:10;209:6,  
9;210:4;228:2;231:14;  
292:1;302:8;373:20;  
388:16,19;390:16,19;  
401:17;409:9  
concession (3)  
173:13;187:22;  
202:17  
concessions (1)  
205:11  
concluded (1)  
422:9  
conclusion (5)  
221:4;222:13;  
326:21,22;348:17  
concurrently (1)  
207:15

conductive (1)  
337:21  
conducted (2)  
11:11;133:5  
conference (4)  
43:3,8,15;61:17  
conferences (2)  
43:2;54:10  
conferred (1)  
314:12  
confidence (1)  
220:13  
confident (1)  
220:14  
conflict (1)  
209:21  
confrontation (7)  
227:16,19,20,21;  
245:4;249:7;250:7  
confused (1)  
377:2  
conjunction (1)  
216:13  
Connect (2)  
15:19;167:4  
connected (1)  
405:15  
consecutively (1)  
309:15  
consensus (1)  
235:8  
consider (1)  
271:12  
consideration (1)  
363:15  
consisted (1)  
88:15  
consistency (2)  
198:22;199:8  
consistent (2)  
222:20;375:8  
consistently (2)  
8:4;310:16  
consortium (1)  
123:16  
constant (2)  
290:18;375:8  
constrained (1)  
382:8  
construct (1)  
126:20  
contact (2)  
282:6,11  
contain (3)  
158:6;172:8;399:16  
contained (30)  
134:7;150:3;158:12,  
19,20;159:8;161:9;  
169:16,19;170:2;  
171:7,9,12;172:2,9;  
183:13,17,20,22;184:6,  
7;194:19;196:13;  
198:14,21;201:8;

220:8,11;233:5;245:17  
containing (9)  
133:2,17;138:10;  
162:17;169:20;185:12;  
189:6;201:1;365:22  
contains (3)  
138:6;145:21;216:1  
Content (38)  
92:19;93:6;106:2;  
110:16;119:13;138:4,  
12;145:21;158:1,7,12;  
159:7;179:10,16;  
180:1;181:6;189:8;  
190:11;204:11;211:17,  
21;212:10;214:13;  
220:16;221:20;222:14,  
19;223:8,9;234:3,11;  
240:22;242:8;278:17;  
286:15;291:3;341:3;  
398:4  
contents (7)  
154:4,17;155:22;  
157:17;169:13;194:12,  
15  
context (6)  
111:21;333:1;  
340:12;345:5;388:6,13  
continuation (2)  
362:18,21  
continue (7)  
145:16;182:1,3,8;  
389:5,8;420:4  
continued (2)  
61:6;150:7  
continues (1)  
309:1  
contour (3)  
351:11,17,19  
contract (4)  
38:7;39:10;40:4;  
41:10  
contracted (1)  
165:8  
contracting (2)  
40:1;46:14  
contractor (2)  
38:20;39:2  
contracts (1)  
46:15  
contrast (8)  
105:11,12,14;110:8;  
113:18;303:17;304:13;  
305:10  
control (6)  
94:11;152:9;206:16;  
284:21;324:2;380:15  
controlling (1)  
111:5  
controls (1)  
206:17  
conversation (5)  
165:15,16;250:4;  
253:18;347:19

conversations (4)  
78:6,7;150:22;  
159:11  
conversion (1)  
100:19  
conversions (1)  
68:6  
convert (6)  
35:19,21;36:1;68:7;  
100:20;207:5  
converted (3)  
81:6,7,10  
converting (1)  
32:19  
cooperated (1)  
29:12  
coordinate (2)  
83:19,21  
coordinates (2)  
356:6,13  
copied (13)  
96:18;97:13;129:14;  
130:20;191:12;267:18;  
305:21;306:9,21;  
307:8,18;308:7;309:14  
copies (13)  
89:8;115:2,3;128:14;  
158:21;162:16,22;  
163:1,4;196:6;256:4;  
283:3,3  
copy (15)  
96:22;97:17,17,19;  
98:1;128:11,12;  
134:17;147:12,17;  
164:13;196:5;324:7;  
358:10;367:14  
copying (6)  
94:4;97:9,16;165:20;  
166:4,9  
corner (8)  
176:9;177:7;280:18;  
339:6;341:9;366:9,14;  
367:19  
corporation (1)  
42:11  
correction (1)  
40:21  
correctly (2)  
82:10;224:8  
correlate (1)  
388:4  
corrupt (1)  
97:11  
counsel (1)  
146:6  
count (32)  
84:2,6,9,16;85:1,7,9,  
10,13,16,22;86:10,12;  
87:22;88:1,2,4;89:1,7,  
11;90:7;180:8;309:2;  
341:9;352:19,21;  
354:6,14,17;355:3,8,17  
counted (2)

<p>85:19;355:5 counter (9) 204:20;205:3,8; 282:6,7,12,14,284:17; 285:12 counterintelligence (1) 59:13 countermeasure (1) 122:5 countermeasures (6) 17:14;29:11;32:4; 37:4;43:10;122:10 counters (1) 205:3 counter-surveillance (3) 29:10;37:3;59:13 counterterrorism (3) 29:14;31:3;33:3 counting (1) 93:12 country (1) 27:14 County (2) 130:4;165:13 couple (21) 5:1;21:10;30:18; 43:3;61:14;62:8,18; 79:1;122:7;123:13; 125:2;211:15;220:3; 248:9,10,15;313:19; 328:14,15;380:2,5 course (49) 8:5,12;10:13;11:11, 22;12:3;14:1,2,2,10; 15:6,20;17:11,14,19; 18:14;19:9;20:11; 22:15,20,22;31:15; 32:7;34:4,5;40:19; 42:5,13,14,15;43:14; 51:7,13;61:2,14,15,17; 65:7;95:11;110:1; 114:11;217:19;225:12; 245:16;280:17;311:6; 331:10,11;366:18 courses (44) 7:11;10:15,17,20; 16:6,7,15,16,20;17:16; 18:6;19:5;33:15,15,19, 22;34:2;42:2;43:2,9, 12,15;44:5,16;46:21, 22;48:5;49:18,22; 51:15,17;52:3,15; 53:14,19;54:1,3,14; 55:8;62:18;63:11,21; 103:17;386:13 COURT (22) 39:6,8;131:13,14; 133:21;258:2,5;282:8; 285:8;292:17,22; 295:14;301:2;318:20; 344:10;371:3;388:15; 390:5,10,15;402:20; 421:8</p>	<p>cover (2) 178:5,22 covered (3) 200:7;211:16;214:5 covers (1) 330:17 covert (3) 14:4,22;17:15 creases (1) 118:16 created (1) 375:22 credit (2) 10:20;19:7 credits (5) 7:11;8:6;9:4,7,12 crime (9) 17:15;21:17;23:22; 65:7;68:1,2;72:13,15; 336:22 criminal (19) 8:16;18:20;19:3; 20:13,14;21:15;22:15; 23:10,12;29:10,14; 31:2;33:3;36:6;57:15; 59:12;134:17,20,20 criminals (3) 28:11;388:8;411:15 critical (32) 65:5,8;67:14,17; 68:4;80:18;99:13; 106:20;138:6,10,11,15, 16,17,18,19,20,21,22; 139:1,5,6,10,12,16,17, 19;140:1;141:3; 145:22;233:7;275:18 critically (2) 150:3,5 cropped (21) 282:17,20;294:9,20; 296:21;297:6,14,21; 299:20;303:11;304:7; 305:5;306:1,11,22; 307:10,21;308:8; 364:17;368:12;369:3 cropping (2) 280:17,21 cross (5) 384:19;385:15,17, 18,18 crossed (2) 296:20;383:14 crosses (1) 385:13 crossing (3) 298:17;385:11; 408:14 crowds (1) 121:13 cue (1) 108:13 cues (1) 94:16</p>	<p>curious (2) 270:2,3 currently (1) 195:20 curriculum (6) 8:12;19:2,9,14; 22:15;61:1 cursor (1) 330:20 Curtis (2) 130:2;402:7 Curves (5) 320:11,12;321:21; 352:10;368:2 custody (4) 77:13;135:12; 164:21,21 customer (8) 171:7,15;188:11; 189:1;202:6;284:5; 285:7;297:13 cut (3) 250:18,19;274:16 cutting (1) 298:14 CV (17) 6:21;7:4;16:19,20; 17:9;18:5,16;24:5,12; 33:18;38:10;50:3;52:1; 62:10;63:4;121:21; 122:14</p>	<p>database (5) 75:20;167:4,10,14; 168:12 date (16) 26:20;96:11;211:19; 213:8,12;222:20; 284:20;294:10;299:2; 303:13;304:7,9;305:3, 5;306:1,22 date/time (20) 177:6;193:8;199:5; 207:6,6;209:14; 294:21;296:21;297:7, 15,22;299:21;303:9, 11;304:5;306:11; 307:10,21;308:9;309:1 dated (2) 147:16;161:7 dates (3) 21:5;25:16;213:14 day (8) 9:22;10:1;43:16; 59:10;151:21;153:5; 291:22;376:10 days (6) 38:1;113:10;154:19; 165:5,12,12 DC (4) 42:5,9,9,16 DEA (1) 29:13 deadly (1) 130:9 deal (7) 43:19;96:18;131:13; 152:3;180:18;387:11; 403:3 dealing (11) 63:22;91:12;106:8; 111:21;118:6;129:2; 131:11;140:10;250:4; 328:6,11 dealings (1) 131:15 deals (2) 78:19;79:3 Deanna (1) 4:3 Dear (1) 130:1 death (2) 130:9;414:12 December (10) 12:15;13:16;21:21; 23:7;44:13;46:20;52:3; 54:6;146:17,20 decent (1) 215:21 decide (5) 117:5;250:8;271:16; 337:20;365:2 decided (3) 340:7;348:10;360:4</p>	<p>deciding (1) 252:2 decision (8) 170:15,18;222:6; 233:9;274:22;277:2; 335:17;421:17 decks (1) 55:4 decode (4) 81:13,17,18,19 deconstructing (1) 111:4 decrease (3) 114:17;115:14,22 decreasing (1) 109:8 deem (1) 161:17 deeper (1) 373:12 Defendant (4) 4:2,12;130:5,7 Defendant's (11) 4:15;338:9;358:7; 360:21;367:11;368:17; 370:19;379:10;394:1, 6;422:15 Defense (16) 6:18;24:12;65:9; 128:20;129:2;134:18, 19,21;136:11;147:2; 241:17,20;242:1; 314:16;378:1;379:8 define (67) 90:4;104:18;106:21; 107:21;108:1,12; 119:15;149:21;150:6; 161:19;169:1,3,4; 180:20;186:7;193:10; 201:16;203:13;207:14; 208:12;214:7;227:14; 231:17;232:12;241:16, 17;243:15;250:2,17; 260:16;301:4;324:18, 20;325:6,19;326:6; 327:7;330:22;337:17; 340:2,10;341:3,4; 343:6,10,12;344:6; 345:8;348:22;352:10; 356:11;368:15;377:8; 378:20;382:17;384:14; 386:8;387:20;388:11; 399:9,10;400:2; 401:20;407:18;419:21; 420:7,22 defined (56) 128:18;138:18; 139:20;161:16;163:9, 16;172:13,21;175:3; 180:10;181:4;183:10; 186:7;187:9;190:14; 193:4,5;194:2;196:19; 198:14;199:21;200:18;</p>
---	--	--	---	---

**D**

dabbled (2)  
46:6;103:22  
daily (1)  
61:18  
DAIS (1)  
75:21  
damaged (1)  
165:22  
dangerous (2)  
300:11;301:15  
dangers (3)  
110:17,18,21  
dark (3)  
105:22;106:10;108:8  
darken (1)  
109:12  
darkened (2)  
109:16;173:7  
darkening (1)  
80:17  
darker (4)  
107:20;373:6,19;  
374:15  
darkness (3)  
105:11;110:7;375:19  
darks (1)  
106:11  
data (2)  
92:10;93:22

201:7;208:19;210:14; 215:5;216:22;218:15; 223:17;228:16;230:5; 21;233:4;252:8; 260:11;261:13;301:22; 302:19;318:10;325:16; 331:13;341:8;344:1; 350:9;351:7,9;352:16; 356:7,8;367:22; 382:20;386:1;400:11; 407:2;415:10;419:15	96:13;102:1,19;105:4; 116:3,11;118:7;121:7; 153:20;172:1;176:2; 178:7;180:2;290:15	desk (2) 29:15;285:7	dictate (1) 255:21	29:18,20;31:16;32:14; 17,17,19,20;50:11; 76:18;81:9,10;91:12, 13,13;124:3;196:8
<b>defines (4)</b> 121:5;160:6;226:10; 375:19	<b>Depends (25)</b> 51:20;68:19,19;70:4; 85:4;86:8;88:18;92:4; 12:94:5;100:10;104:5; 109:3;118:5;120:17; 17;121:19;124:18; 215:19;216:1;218:11, 22;290:14;349:7,7	<b>desktop (3)</b> 170:3;184:3;194:5	<b>differ (2)</b> 241:2;290:17	<b>digitizing (1)</b> 29:19
<b>defining (20)</b> 190:5;209:11; 210:20;217:13;233:14; 300:22;326:18;330:17; 340:15;348:6;361:11; 385:8,14;388:8; 405:11;406:8,9,10; 408:1;417:2	<b>depicted (2)</b> 374:20;381:22	<b>destroying (1)</b> 111:4	<b>difference (39)</b> 45:14;47:11;48:11, 15;59:4;67:8,11;69:1, 5;97:15;126:14; 153:18;199:21,22; 221:20;238:13;240:19, 20;242:4;247:18; 290:20;311:2;316:20; 320:5;342:14;343:18; 347:3,4;362:10;365:3, 18;369:16;370:3; 372:11,19;374:8; 375:5;390:11,12	<b>digits (1)</b> 153:9
<b>definitely (1)</b> 408:9	<b>Deployed (2)</b> 26:15;34:17	<b>destruction (1)</b> 25:11	<b>Dino (18)</b> 224:18;225:8;236:8; 246:17;256:13;266:4; 267:2;268:18;269:10; 270:9,11;272:5,20; 275:2,13;276:1; 277:11;403:12	
<b>definition (17)</b> 210:8;243:6,18; 250:3;268:16;316:6, 22;317:4;318:8,10,17; 319:1,339:1,3;349:19; 351:3;386:1	<b>deployments (2)</b> 26:14;36:7	<b>destructive (1)</b> 215:1	<b>direction (4)</b> 92:13;288:10,13; 414:6	
<b>definitions (1)</b> 316:19	<b>depo (11)</b> 4:22;229:14;253:2, 14;254:11,17;255:19; 256:4;270:18;421:13, 18	<b>detail (25)</b> 74:18;75:18;80:15; 95:7;96:6;98:10,14; 106:21;107:19,21; 108:1;110:16;119:18; 120:21;214:16,18,19; 215:2,4,12;271:20; 272:14;273:14;275:18; 277:1	<b>direct (1)</b> 94:16	
<b>definitive (1)</b> 222:13	<b>depos (1)</b> 421:11	<b>details (9)</b> 159:21;160:1,5; 200:20,21;214:21; 218:19;269:17;271:4	<b>differences (12)</b> 162:18;166:20; 195:18;196:22;197:1, 7;212:15,16;241:8; 242:7;286:8,14	<b>directly (4)</b> 45:12;151:2;152:8; 412:20
<b>degrade (3)</b> 104:9;119:4;291:4	<b>deposed (1)</b> 4:11	<b>detected (1)</b> 222:21	<b>different (113)</b> 27:14;28:9;35:8; 44:16,18;47:16;49:18; 52:15;55:2,3,5;56:8; 64:4,5,6,7,11,12,13; 66:15;67:4;68:14;69:8; 71:11;72:2;74:1;77:11, 20;82:7,8;85:13,18; 86:16;87:4;92:7,9; 99:11,13;108:4;116:3, 12;119:13;120:12,14; 121:6,9,20;138:20,21; 139:7;154:15;166:6; 169:7;172:15;174:15, 17;181:13,14;183:7,17, 18;184:9;193:2; 195:13;199:4;213:5; 215:10;219:1;224:11; 225:3;247:12,13; 250:19;260:21;261:11; 265:8,19;272:11; 281:13;283:20,22; 286:18,19,21,22; 288:10;289:19;301:12; 316:9;325:10,22,22; 326:2;329:4,4,8; 332:22;333:1;340:9; 346:16;347:20;355:9; 357:13;362:20;364:22; 371:18;374:18;378:17; 379:6,6;380:16;401:1; 416:1	<b>disadvantage (1)</b> 237:6
<b>degree (35)</b> 7:17;8:7,13;9:7;10:2, 20;16:8,12,15;17:10, 17;18:18,19;19:7,10, 12,13;20:16;21:8; 23:14;57:7,7,10,11,12; 58:1,12,13;318:15; 351:18,19;370:6; 374:7,9;396:11	<b>Deposition (12)</b> 4:1;5:22;123:10; 134:20,20,22;136:12; 211:12;273:3;313:8; 393:20;422:9	<b>determine (41)</b> 19:5;133:6;173:5; 174:6;183:5;220:19, 20;233:1;235:16; 244:22;260:14;271:4; 278:20,22;295:17,20; 298:13,16;320:21; 324:13,16;325:2; 327:4;329:20;333:10; 334:14;339:22;340:22; 342:9;350:13;353:15; 364:6,7;374:1;377:15; 379:17;382:15;383:2, 16,19;422:5	<b>disagree (1)</b> 224:15	<b>discern (18)</b> 73:22;74:19;75:15, 19;76:18;87:1;234:14; 266:15;273:22;312:18; 335:12;346:2;359:9; 362:3;372:22;410:10; 411:17;416:11
<b>degrees (12)</b> 8:17,18;13:13;17:1; 19:1;21:10,12;22:2; 24:2,3;57:19,21	<b>depositions (1)</b> 310:6	<b>determinations (3)</b> 343:3;347:8;349:15	<b>discernable (10)</b> 68:2;118:16;186:9; 231:9;233:9;234:2; 263:4;265:11;335:16; 365:18	
<b>DEL (2)</b> 50:5,10	<b>depth (4)</b> 33:7;121:8;168:1; 179:4	<b>detective (3)</b> 165:13,17;166:3	<b>discerned (3)</b> 81:8;118:11;295:14	
<b>delve (2)</b> 274:7,7	<b>derivative (3)</b> 332:9;333:8;360:16	<b>determination (3)</b> 343:3;347:8;349:15	<b>discovery (6)</b> 6:20;129:3;134:19, 20,22;136:12	
<b>Demultiplexing (2)</b> 67:19;121:9	<b>derive (7)</b> 164:13;219:13; 271:9;327:8;338:22; 341:12;370:14	<b>determinations (3)</b> 72:17;337:4;350:19	<b>discuss (1)</b> 138:10	
<b>Department (13)</b> 38:6,20;39:11,18,19; 40:1,11;41:2;42:8; 56:9,12;60:20;122:8	<b>Derived (8)</b> 135:19;175:18; 191:14;321:6,7;327:2; 334:1;399:5	<b>determine (41)</b> 19:5;133:6;173:5; 174:6;183:5;220:19, 20;233:1;235:16; 244:22;260:14;271:4; 278:20,22;295:17,20; 298:13,16;320:21; 324:13,16;325:2; 327:4;329:20;333:10; 334:14;339:22;340:22; 342:9;350:13;353:15; 364:6,7;374:1;377:15; 379:17;382:15;383:2, 16,19;422:5	<b>discussed (4)</b> 71:16;139:19,20; 396:3	
<b>depend (1)</b> 377:11	<b>derives (3)</b> 115:5,18;276:22	<b>determined (5)</b> 162:5;179:14; 321:19;351:2;382:5	<b>discussion (6)</b> 137:16;142:10; 144:14,15;371:6; 398:22	
<b>depending (17)</b> 46:15;73:22;76:7;	<b>deriving (2)</b> 80:15;158:10	<b>determining (5)</b> 66:9;180:6;219:9; 345:16;383:22	<b>discussions (2)</b> 22:18;137:9	
	<b>describe (3)</b> 319:1;339:15,16	<b>development (6)</b> 34:14;35:11,12,15, 16;55:18	<b>disk (1)</b> 81:11	
	<b>described (2)</b> 151:15;332:17	<b>Device (7)</b> 151:15;155:6,11; 176:6;198:7;386:13; 406:4	<b>disks (1)</b> 93:3	
	<b>describing (2)</b> 136:18;411:1	<b>devices (5)</b> 15:1;156:19;158:7; 224:11;263:19	<b>display (1)</b> 361:3	
	<b>descriptive (1)</b> 296:3		<b>disprove (1)</b> 419:10	
	<b>designated (2)</b> 84:1;323:18			
	<b>designed (2)</b> 124:4;291:10			

<p><b>disrupt (1)</b> 214:21</p> <p><b>dissimilar (1)</b> 74:21</p> <p><b>Distance (6)</b> 261:17,20;262:16; 263:4;347:19;366:12</p> <p><b>distinct (1)</b> 118:13</p> <p><b>distinction (1)</b> 242:11</p> <p><b>distort (1)</b> 288:7</p> <p><b>diving (1)</b> 166:21</p> <p><b>doctor (1)</b> 414:11</p> <p><b>document (10)</b> 128:22;148:11; 157:5;199:7,11;236:9; 248:5,7;332:21;378:1</p> <p><b>documented (1)</b> 356:21</p> <p><b>documents (2)</b> 147:4,13</p> <p><b>done (61)</b> 12:19;16:3;19:16; 22:19;73:5,17;74:16; 82:2,10;97:5;98:7; 101:1;109:13;112:10; 12,22;114:5;126:3,11; 127:17;135:2,5;136:5; 149:22;176:13,15; 183:4;197:19;198:1; 210:16;232:5;234:12; 243:14;267:13;268:9; 10;291:14;293:8,22; 300:7;301:10,12; 302:14;303:2,21; 310:9;313:14;324:6; 331:7;349:4;356:16; 19;357:6;358:1; 376:14,15;397:2; 401:8;403:10,11;421:5</p> <p><b>door (4)</b> 50:10;51:10;59:5; 188:21</p> <p><b>dot (28)</b> 235:5,6,7,9,12,17,20; 236:22;237:10,11,15; 240:14;242:18,19; 244:5,13;260:20; 262:10;271:14;353:14; 15,18,21,22;354:1,1; 368:4;371:22</p> <p><b>doubled (1)</b> 23:5</p> <p><b>doubt (1)</b> 213:20</p> <p><b>doubtful (1)</b> 79:6</p> <p><b>Doug (2)</b> 125:20;126:1</p>	<p><b>down (64)</b> 16:4;23:4;34:3,18; 35:7,10;39:3;41:12,15; 17;42:14,15;46:16; 47:14;53:7;72:3;73:3; 82:16;85:1;93:5;95:6; 121:18;122:11;124:6; 128:4;142:22;143:11; 17;144:3,6,12;163:12; 178:10;217:2;234:18; 248:1;267:11;268:18; 285:8;286:9,11;287:9; 289:21;290:13;294:12; 22;322:17;330:7,9; 334:21;340:16;341:6; 10;342:13;343:16; 364:16;365:11,17; 368:6;369:3;373:18; 404:11;421:21;422:2</p> <p><b>dozen (1)</b> 44:5</p> <p><b>drafted (1)</b> 146:16</p> <p><b>drag (1)</b> 97:18</p> <p><b>drew (1)</b> 339:19</p> <p><b>drive (72)</b> 81:11,12;128:13; 150:20;151:16,20,22; 152:14;153:4;157:13; 18;158:3,6,6,11,18; 166:22;168:15;169:13; 16;170:1,4,9,10,16,17; 177:19;183:11,16,22; 184:4,5,22;185:1,2; 190:1,6,14,17;191:9; 11,12;192:8;193:12,13; 18;194:2,3,12,15; 195:1,2,14;197:21; 200:3,13,16;213:1,4; 219:18,20;220:8,9; 224:21;252:14;253:11; 255:6;283:4;312:10, 11,13;323:21</p> <p><b>drives (30)</b> 133:1,2;135:21,22; 150:20;152:13;153:6; 158:4,15,17;165:1,7,9, 14,20;166:1,21;168:14, 16;169:12;170:11; 174:10;183:19;189:22; 194:8;195:20;196:4; 219:21;312:14,17</p> <p><b>driving (3)</b> 374:17;400:21; 407:19</p> <p><b>drop (1)</b> 108:5</p> <p><b>dropper (2)</b> 105:21;328:3</p> <p><b>drove (1)</b> 27:12</p>	<p><b>drugs (1)</b> 29:13</p> <p><b>Dual (1)</b> 304:6</p> <p><b>due (1)</b> 382:3</p> <p><b>dump (1)</b> 170:9</p> <p><b>dumped (2)</b> 170:16,17</p> <p><b>duplicate (4)</b> 178:21;179:2; 181:10;380:12</p> <p><b>duplicates (1)</b> 145:22</p> <p><b>during (50)</b> 7:12;10:5,13;11:2; 14:2,3;20:11;22:21; 26:5;31:15;40:19; 43:16;52:17;53:9;65:7; 70:21;82:19;119:7; 120:12;131:12;132:10; 134:21;136:9;142:11; 163:7,10;168:3,19; 232:3;233:3;244:18; 245:3;249:10;278:15, 17,19;280:6;291:15; 315:17;325:17;334:2; 336:19,21;337:14,14; 348:19;359:18;376:2; 403:22;412:21</p> <p><b>duties (1)</b> 135:8</p> <p><b>duty (1)</b> 7:12</p> <p><b>DVD (10)</b> 81:11;136:19,21; 137:2,6,7,8,11,17,18</p> <p><b>DVDs (3)</b> 137:4;283:5,5</p> <p><b>DVI (1)</b> 220:11</p> <p><b>DVR (39)</b> 55:7;91:7;96:8; 136:22;137:12;154:6, 6,8,16;158:4,11;168:9; 170:4;178:19;180:2,3, 12,13,21;181:3,8; 183:8,21,22;213:16; 214:2,3;216:8,15,17, 19;217:16;218:16; 219:8;220:11;222:5,8, 12;243:15</p> <p><b>DVRs (11)</b> 55:3;94:9,9;154:20; 165:7;170:12;213:14; 218:5;219:1,4,21</p>	<p>129:8;130:1,12,15; 269:21;270:2,4;387:3, 6;389:13,17;390:1; 409:17,19,22;421:14; 422:7</p> <p><b>earlier (5)</b> 67:18;177:8;323:8; 398:11;412:13</p> <p><b>Earl's (1)</b> 131:21</p> <p><b>early (3)</b> 27:16;28:16;415:7</p> <p><b>easier (9)</b> 71:18;86:10;226:13, 20;239:9;270:17; 273:3;332:10;416:19</p> <p><b>easily (3)</b> 66:21;68:1;321:22</p> <p><b>easy (2)</b> 153:10;266:8</p> <p><b>economy (1)</b> 46:16</p> <p><b>edge (1)</b> 233:16</p> <p><b>editing (1)</b> 136:17</p> <p><b>education (3)</b> 7:5,6;19:8</p> <p><b>effect (13)</b> 281:7;287:14; 298:12,18;301:20; 302:2,12;322:6; 328:18;331:9,14; 332:9;366:15</p> <p><b>effects (4)</b> 273:21;298:9; 310:19;324:18</p> <p><b>effort (1)</b> 178:22</p> <p><b>eight (1)</b> 359:7</p> <p><b>either (12)</b> 24:4;78:8;96:13; 105:21;109:11;114:8; 131:12;152:22;200:18; 270:14;310:11;328:20</p> <p><b>electrical (1)</b> 12:11</p> <p><b>electronic (19)</b> 12:16;18:1;19:19; 21:6;27:13;37:3;42:21; 128:18;141:10,16,17, 20;159:14,20;160:1; 161:7;323:10;366:8; 411:13</p> <p><b>electronically (5)</b> 189:7,13;190:4; 366:2,6</p> <p><b>electronics (7)</b> 18:11;19:19,20,22; 20:3,5,11</p> <p><b>element (1)</b> 330:7</p>	<p><b>else (38)</b> 54:11;66:8;73:16; 74:3,8;75:1;92:6; 94:15;98:4;109:1; 120:6;121:1,11; 185:11;198:2;232:14, 16;234:18;241:7; 244:9;247:8;250:13; 251:19;252:7,8; 280:14;281:10;291:14; 292:10;301:20;311:22; 332:9;347:13;362:14; 412:2,6;417:22;418:2</p> <p><b>else's (3)</b> 66:15;82:21;302:3</p> <p><b>e-mail (2)</b> 141:19;323:12</p> <p><b>e-mails (1)</b> 141:1</p> <p><b>emanating (1)</b> 315:5</p> <p><b>embed (1)</b> 207:5</p> <p><b>embedded (9)</b> 137:1;174:19,21; 175:4,15;184:16; 193:8;211:18;212:17</p> <p><b>Emergency (1)</b> 124:22</p> <p><b>emitting (5)</b> 295:18;397:6,9,12, 13</p> <p><b>employ (1)</b> 422:4</p> <p><b>employed (1)</b> 47:1</p> <p><b>Enable (1)</b> 12:19</p> <p><b>encode (4)</b> 81:13,17,18,19</p> <p><b>end (13)</b> 9:6;23:6;64:10; 73:11;128:1;260:19; 262:11,11;273:2; 291:22;302:15;311:14; 319:10</p> <p><b>ended (1)</b> 23:8</p> <p><b>ending (1)</b> 18:6</p> <p><b>enforcement (10)</b> 5:16;15:12;32:16; 35:20,21;36:1;44:5; 45:21;124:21;165:8</p> <p><b>engineer (3)</b> 82:1;357:11,12</p> <p><b>engineering (2)</b> 58:12,13</p> <p><b>engineers (7)</b> 58:7,8,9;64:7;82:12, 14;94:10</p> <p><b>England (7)</b> 11:22;12:9,13;25:6,</p>
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15;27:4;68:11 <b>enhance (25)</b> 30:6;87:10;99:21; 102:17;104:3,19; 107:10;109:18;110:16; 113:14;133:12;142:5; 12:145;11;159:15; 161:9;20;206:19; 208:17;215:1;227:15; 231:10;260:8;283:14; 332:16 <b>enhanced (60)</b> 110:2;133:19; 136:14;143:20;148:21; 161:10;189:7,8; 209:11;224:20;225:13; 21;226:5;234:4;237:4; 245:17;21;246:11,14; 251:12;256:8,12; 257:1,9,12,15;259:19; 266:5,10,11,12;267:20; 272:11;275:9;276:16; 17,18,20;279:16; 281:17,19;282:3,5,10, 12,14,17,20;283:1,4,8, 15;287:15,18;324:5; 326:19;331:4,17; 332:1;368:13 <b>enhancement (91)</b> 14:6,6;16:2;29:20; 31:13,21;32:17,20; 33:13,14,16;42:6,10, 16;43:11,12;44:4; 60:21;61:5,16;67:13; 68:10;70:8;80:6,8,9,12, 14;93:19;99:12; 101:12,17;103:5; 104:8;110:1,12,13,15; 112:9;113:9,9;119:15; 142:2,3;145:20; 148:22;160:8;206:20; 208:11,18;210:4,8; 211:8;214:22;215:1; 217:13;259:5;260:11; 263:9,10,13;266:13; 269:18;271:20;272:13; 274:13;275:10;279:11, 12,19;280:2;281:9; 283:18,19,20;287:4; 288:20,22;289:2,4,8; 302:18;310:17;315:2; 325:14,18;326:3; 331:6;333:3;398:19; 400:8 <b>enhancements (19)</b> 67:16;102:20,21; 104:9;138:3;189:18; 208:6,10,19;209:9,10; 217:21;269:11;272:6; 275:2;276:1;284:1; 303:1;328:11 <b>enhancing (4)</b> 31:16;113:15;	206:13;301:5 <b>enlarge (1)</b> 332:15 <b>enlarged (5)</b> 340:19,19;364:17; 367:20;369:3 <b>enlisted (2)</b> 24:16;25:18 <b>enough (15)</b> 74:18;75:18,18; 154:1;335:15;337:16; 343:12;346:9;348:7; 13,15;349:13;350:16, 22;377:9 <b>ensure (8)</b> 64:14;91:15;138:12; 146:2;162:18;197:11; 213:17;341:13 <b>ensured (1)</b> 284:11 <b>ensuring (2)</b> 50:14;199:5 <b>entails (1)</b> 75:20 <b>enter (4)</b> 284:14,19;285:1; 312:6 <b>entered (1)</b> 44:14 <b>enters (3)</b> 285:5,13,15 <b>entertaining (1)</b> 167:17 <b>entice (1)</b> 77:17 <b>entire (17)</b> 86:4;167:4;169:11; 178:19;236:2;257:13; 258:13,14,16,18,20; 260:12;263:10;266:14; 322:14;365:17;407:10 <b>entitled (1)</b> 134:19 <b>entrance (9)</b> 171:9,21;173:13; 188:18;202:11;282:22; 284:5,7;297:12 <b>entry (2)</b> 284:5,15 <b>environment (2)</b> 95:12,14 <b>equal (4)</b> 303:17;304:12; 305:9;341:22 <b>equalize (1)</b> 107:18 <b>equally (3)</b> 250:21;251:14; 366:11 <b>equation (4)</b> 320:18,18,19,20 <b>equations (1)</b> 320:17	<b>equipment (8)</b> 11:10;17:11,13;18:1; 19:19;24:17;55:2; 147:19 <b>erect (2)</b> 349:20;351:18 <b>err (1)</b> 337:19 <b>errata (1)</b> 422:1 <b>error (2)</b> 7:19;82:4 <b>ESCOBAR (129)</b> 4:18;39:7;49:4,5; 96:1,16;123:8,12; 140:13;160:19,21; 211:3,14;224:18; 225:6,18;235:4,7,10; 245:12,13;246:17,19; 252:13,19;253:3,6,8, 10,14,20;254:1,5,8,12, 14,16,19;255:2,11,15, 20;256:1,6,13,16,18; 258:3,12;266:4,7; 267:2,9,11,14;268:18, 21;269:10,12,22;270:3, 5,6,9,16,21,22;272:5,9, 20;273:1,5,8,9;275:1,3, 12,15;276:1,3;277:7,8, 11,15,17,21;278:1,3; 279:10;285:20;293:19; 295:11;313:10;314:11; 316:8;326:9;330:1; 335:1,18;336:1,4; 349:16,17,18;358:3; 364:10;368:9;373:20; 376:22;382:9;387:4,7, 11,15,17,18;389:15,19; 396:4,17;401:9; 403:12;410:4;415:4,5; 421:3,6,10,15 <b>escorted (1)</b> 173:4 <b>Especialty (4)</b> 13:13;119:16;209:5; 218:7 <b>essence (1)</b> 132:7 <b>essentially (3)</b> 88:7;200:1,7 <b>established (1)</b> 384:7 <b>esthetic (1)</b> 114:21 <b>Europe (4)</b> 24:21;25:1;27:8; 31:3 <b>European (3)</b> 24:22;25:3;27:7 <b>even (20)</b> 5:3,19;9:22;42:1; 46:17;59:5;85:15;93:2; 113:10;146:15;196:10;	243:11;265:8;275:9; 311:21;354:17,19; 374:21;390:8;407:1 <b>event (3)</b> 223:16;224:8,10 <b>events (6)</b> 162:20;223:2,12,15; 224:5;284:3 <b>everybody (2)</b> 251:13;333:5 <b>everything's (2)</b> 193:21;212:20 <b>evidence (28)</b> 48:19;50:11,12,13; 70:17;91:12,13,14; 95:1,4;131:4;134:15; 136:16;147:13;152:9; 155:8;157:4,7;163:5; 164:8,13,16;165:1,21; 241:16,18;324:2;332:9 <b>exact (16)</b> 96:22;97:17;108:10; 112:21;183:19;195:14; 212:10;276:12;280:7; 306:6;309:5;358:19; 369:18;374:6;380:3,4 <b>exactly (41)</b> 111:1;118:14; 127:16;159:5;163:15, 17;180:22;186:6; 187:12;189:14;196:17; 200:19;220:15;222:15; 233:4;234:14;236:1; 269:8,16;274:1;276:9; 279:6;280:8;286:16; 289:18;319:2;326:20; 341:12;352:17;362:19; 366:13,16;369:2; 371:2;372:2;377:8; 394:21;402:10;407:12; 410:20;419:1 <b>exam (5)</b> 283:3;293:3;313:5; 337:22;354:22 <b>examination (49)</b> 4:1,13;70:22;71:2; 92:5,13;121:8;135:19; 150:6;151:12;155:9; 160:5,6;166:12; 191:17;200:20;231:16; 232:6;234:6;244:18; 265:18;267:1;274:6, 10,12,13;276:13; 286:3;292:15;302:16; 312:1;315:17;319:8; 325:11;326:2,7,14; 334:6;337:21;350:16, 18;358:2;375:20; 376:9;378:18;382:20; 398:1,21;402:13 <b>examinations (11)</b> 69:9;71:7;72:2; 127:7,21;234:12;	265:19;323:14;334:5; 349:2;379:6 <b>examine (3)</b> 157:1,7;244:15 <b>Examined (9)</b> 151:17;156:19,22; 157:4,6,8;247:2,3; 350:20 <b>examiner (16)</b> 40:10,10;47:9,9; 56:18;58:21;59:1,1; 124:18;127:5;155:9; 164:11;288:8;302:21; 339:1;348:22 <b>examiners (7)</b> 60:10;61:19;64:20; 123:17;164:8;348:20; 402:18 <b>examining (1)</b> 180:11 <b>example (3)</b> 73:10;260:14;353:15 <b>except (1)</b> 116:9 <b>exception (1)</b> 350:18 <b>exclude (7)</b> 399:14;405:3,7,21; 406:20;408:8,10 <b>excuse (10)</b> 34:2;115:22;226:1; 233:7;250:5;273:5; 302:20;313:4;347:16; 412:9 <b>EXE (27)</b> 168:1,11,16;169:2, 21;171:4,7,9,16,19; 172:12;177:5,6; 183:21;184:14;190:7; 191:6;192:19;193:16; 195:2,15,16;196:6,19; 204:11;206:1,10 <b>exercise (1)</b> 167:17 <b>Exhibit (30)</b> 4:15;6:18;7:1;24:12; 123:4;128:20;129:2; 147:2,7;148:2,11; 151:13;314:13,16; 323:6;338:9;358:5,7; 360:19,21;367:12; 368:17;370:19,22; 371:4;378:1;379:10; 394:1,6;422:15 <b>exhibits (7)</b> 150:4,10;252:12; 254:10;255:14;256:3; 383:5 <b>EXIF (1)</b> 92:10 <b>exit (1)</b> 297:5 <b>expand (2)</b>
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191:13;194:18 <b>expansions (1)</b> 194:2 <b>expect (3)</b> 134:22;355:8;374:11 <b>expected (1)</b> 373:5 <b>expensive (1)</b> 219:22 <b>experience (7)</b> 24:9;32:10;135:4; 144:4,5;162:9;388:7 <b>experiment (3)</b> 402:6,8,12 <b>expert (7)</b> 147:20;386:16,22; 401:10;402:15,20; 411:9 <b>explain (8)</b> 81:2;86:17;160:3; 214:8;298:10;325:21; 404:18;421:16 <b>explained (2)</b> 163:16;164:6 <b>explaining (1)</b> 410:11 <b>explanation (2)</b> 243:7;271:8 <b>explanations (1)</b> 151:2 <b>Exploitation (1)</b> 53:1 <b>explore (2)</b> 6:13;163:20 <b>explosion (1)</b> 167:19 <b>export (36)</b> 98:12,15;99:14; 100:11;114:9;126:21; 153:22;154:3,5,6,7; 168:19,22;169:1,2,10, 11;176:22;177:1; 181:16,16,17,19,20,21; 182:5;183:6;190:20; 192:18;193:7;196:7; 19;206:2,4,4;332:2 <b>exported (35)</b> 97:14;158:21; 166:19;168:2,2,17; 191:2;196:20;206:5; 207:7;208:22;213:2; 227:10;246:10;280:6, 8,20;285:18;300:5; 303:19;304:19;305:16; 306:4,16;307:4,14; 308:3,14,18;309:3,22; 328:9;332:7;333:6; 366:1 <b>exporting (3)</b> 169:9;189:18;192:6 <b>exports (5)</b> 158:15,18;183:20; 213:5;220:10	<b>export's (1)</b> 196:6 <b>extension (1)</b> 399:11 <b>extent (2)</b> 240:8;312:3 <b>exterior (1)</b> 297:20 <b>external (6)</b> 49:17;53:19;98:8; 185:2;200:13;323:21 <b>extracted (5)</b> 282:13,16,18,21; 283:2 <b>extracting (1)</b> 98:5 <b>extrapolate (1)</b> 214:13 <b>extreme (3)</b> 258:19;322:15,19 <b>extremely (2)</b> 300:11;301:15 <b>eye (6)</b> 91:22;92:3,17;195:7; 261:8;291:6 <b>eyes (1)</b> 48:19  <b>F</b>  <b>face (1)</b> 85:20 <b>faces (1)</b> 74:15 <b>facial (2)</b> 61:15;120:19 <b>facilitate (1)</b> 256:20 <b>facility (1)</b> 284:15 <b>fact (11)</b> 162:10;164:10,22; 238:3;302:7;317:2; 344:1;361:6;384:6,7; 410:7 <b>facts (21)</b> 89:15;138:6,11,11, 15,17,18,19;139:2,5,6, 10,12,16,17,19;140:1; 141:3;142:8;145:22; 273:14 <b>factual (2)</b> 221:3;223:5 <b>factually (1)</b> 385:9 <b>fair (3)</b> 320:1;332:11;412:6 <b>fall (1)</b> 142:22 <b>falling (5)</b> 143:11,16;144:3,6, 12 <b>familiar (10)</b>	55:5,6,7;77:22; 102:15;103:16;140:17; 147:6;193:6;228:9 <b>familiarizations (1)</b> 12:18 <b>family (1)</b> 41:20 <b>far (68)</b> 7:17;73:22;94:16; 103:5;111:15;114:4; 126:2,3;127:5;146:14; 147:15;148:3;152:2; 153:2;157:6,19;164:8, 10,19;168:17;177:12; 181:4;187:6;189:15; 196:19;199:2;209:10, 11,12;210:7,13,20; 211:1;213:18,20; 214:22;234:5,10; 250:19;251:21;252:7, 16;260:18;262:11; 265:11,21;269:19; 274:19;279:6;290:6, 18;292:5,13,14; 301:22;302:4,13; 326:4,6;341:3;347:4; 348:6;354:14;373:2; 382:11;405:11;407:4, 11 <b>farther (1)</b> 262:13 <b>fashion (2)</b> 95:17;356:22 <b>fast (2)</b> 73:22;285:7 <b>fault (1)</b> 203:5 <b>FBI (65)</b> 28:12;29:13;41:14; 44:15,21;45:2,12;46:5, 10,19;47:1;48:7,7,22; 49:1,6,7,17;50:15; 52:4;53:17,18,19; 54:20;59:3;61:7;64:9, 17;66:11,13,14;69:20; 70:10;78:6;122:8,12; 125:16;127:13;133:3, 3;152:21;153:1; 198:15;206:21;221:21; 241:22;285:17;286:1; 300:4;303:18;304:17; 305:15;306:3,15; 307:3,13;308:2,13; 309:2,21;318:15; 323:13;339:1;409:20; 414:15 <b>FBI's (1)</b> 48:19 <b>features (5)</b> 142:20;171:5; 186:12;187:2,7 <b>February (10)</b> 11:1,15;14:9;15:19;	18:5;32:8;54:12; 122:14,18,21 <b>Federal (18)</b> 13:20;15:12;22:5,19; 24:14;27:22;28:3,5,6,8, 10;29:12;33:13;34:12; 41:17,19;59:7;411:14 <b>federalized (2)</b> 41:6,9 <b>feel (1)</b> 269:14 <b>feet (41)</b> 230:6;346:4,5;376:5; 377:7,21;382:13,14,19, 22;384:3;391:20; 392:1,4,9,16,17,19,20, 21;393:1,3,4,7,10,11, 13,14,15,16,17;396:15; 398:16;400:5,10,17; 404:10,15,17;411:20; 419:20 <b>fell (1)</b> 143:6 <b>felony (1)</b> 130:10 <b>felt (1)</b> 269:14 <b>female (1)</b> 188:21 <b>few (9)</b> 17:8;22:20;42:1; 111:10;114:13;238:3; 243:1;266:2;275:5 <b>FFmpeg (1)</b> 100:20 <b>field (12)</b> 18:8,9;26:15;46:1,4; 53:7;70:7;124:19; 126:15;386:16;398:9; 414:13 <b>fifteen (2)</b> 309:9,19 <b>Fifteen-month (1)</b> 23:3 <b>fifty-five (5)</b> 320:14;322:19,21; 352:13;357:8 <b>figure (6)</b> 65:11,13,15;97:7; 248:19;251:19 <b>figured (1)</b> 144:1 <b>file (45)</b> 97:19,19;128:18; 158:2;169:2,2;175:8; 176:1;177:6;192:19; 195:15,16;196:6; 199:7,9,10;202:2,4,5,9, 14,20;203:6;204:1,10, 11,13,13,14,19;205:2, 9;206:1,2,3,6,10,11,13; 207:6,6;284:5;294:15, 16;324:7	<b>filed (1)</b> 130:7 <b>files (41)</b> 68:18;134:15;168:1, 2,16;169:17,20,21; 171:4;172:9,13,15; 177:5;178:5;183:17, 21;184:3,7,9,12,14; 189:6;190:8,8;193:16, 17;194:5;195:2; 198:21;201:1,8,8; 203:21;207:4,5; 208:22;220:7;221:15, 17;222:7;273:11 <b>fill (1)</b> 19:9 <b>filling (1)</b> 219:20 <b>film (4)</b> 187:18;242:6; 295:21;391:7 <b>filter (9)</b> 105:17;109:4,5,7,18; 215:5;280:9;322:5; 341:10 <b>filters (19)</b> 64:5,5;99:14;103:3; 104:1,20,21,22;105:1, 7;108:14;109:2;215:7, 10;280:7;283:20,22; 322:4,12 <b>final (3)</b> 111:18;183:6;211:10 <b>finally (3)</b> 21:8;56:3;188:9 <b>find (20)</b> 62:20;75:21;159:7; 185:12;215:15;241:8; 244:21;275:19;319:14; 321:22;351:22;352:17; 366:9;369:6,22;370:2; 371:21;382:16;384:13; 410:2 <b>findings (1)</b> 135:16 <b>fine (23)</b> 13:5,5;153:11; 154:22;196:5,6,7,11; 218:19;223:20;224:2; 226:22;227:19,21; 231:8;266:9;278:5; 314:15;397:17,17,19; 414:22;415:2 <b>finer (1)</b> 218:13 <b>fingerprint (3)</b> 88:8;128:11,17 <b>fingerprints (1)</b> 23:21 <b>finish (6)</b> 59:9;121:21;146:18; 293:9;303:3;371:19 <b>finished (2)</b>
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21:8;311:13  
**first (78)**  
 7:4;28:14;33:8;50:4;  
 9:51:8,11;56:5;87:19;  
 21:88:3;104:2;129:5;  
 137:13;144:21;148:22;  
 153:8;164:12;167:21;  
 170:22;179:14;202:1;  
 208:14;211:21;218:13;  
 14,17,19,22;219:21;  
 222:16;224:19;225:19;  
 226:1,4,6;233:16;  
 235:8,17,19;242:5;  
 245:16;246:3,3;272:7;  
 278:13,16,18;280:14;  
 284:2,13;285:21,22;  
 291:15,20;294:14;  
 313:14;318:6;369:11;  
 378:21;382:22;388:16;  
 390:7;402:6;415:12;  
 416:7;417:3,4,7,13,17,  
 17;418:1;419:14;  
 420:2,12,14;421:16  
**fit (2)**  
 209:11;284:22  
**five (24)**  
 9:21,22;25:19,20;  
 29:9;34:3;63:3,12,13,  
 16;80:3,7;99:16;103:7;  
 169:16;171:4,22;  
 172:6;178:9;184:14;  
 200:22;203:6,21;375:9  
**five-minute (1)**  
 123:6  
**fix (1)**  
 63:8  
**flag (1)**  
 164:3  
**flash (1)**  
 179:11  
**flavor (2)**  
 13:3;18:22  
**floor (5)**  
 337:10;342:1;346:5,  
 5;350:8  
**floors (1)**  
 122:10  
**Florida (6)**  
 6:20;130:2,4;134:17,  
 18;402:7  
**fluctuate (1)**  
 291:9  
**flying (1)**  
 154:15  
**focus (10)**  
 15:11;46:21;47:2;  
 55:19;87:7;107:2,6,11;  
 227:22;263:11  
**focusing (4)**  
 16:7;85:5;118:4;  
 360:13  
**folders (1)**  
 169:20

**folks (1)**  
 146:22  
**follow (5)**  
 77:7;121:13;198:17;  
 253:18;254:22  
**following (6)**  
 220:7;288:18;303:8;  
 304:3;305:2;409:14  
**follows (1)**  
 4:12  
**foot (3)**  
 376:4;405:16;412:14  
**football (1)**  
 26:7  
**Foot's (1)**  
 400:17  
**footwear (1)**  
 376:10  
**Force (43)**  
 7:10,13;8:4,6,11;9:9;  
 10:3;11:12,21;12:20,  
 20;13:19,21;18:2;  
 19:21;20:9;22:3,4;  
 24:16;26:2;27:21;  
 29:12;30:20;33:1,2;  
 34:13,14,14,16,18,19;  
 35:6,11,17;36:14;37:8,  
 14,18;45:10;130:9;  
 140:19;153:1;411:13  
**forcible (1)**  
 130:10  
**foreground (1)**  
 263:5  
**forensic (53)**  
 15:8;29:16,19;30:1;  
 32:10;39:12;43:22;  
 44:18;47:7,9,12;50:8;  
 51:13;55:5;56:18;57:3;  
 58:20;59:1,7;63:18;  
 64:10;65:5;89:9;98:9;  
 100:4,7;112:22;113:8,  
 9;119:7;123:16;125:1;  
 160:4,5;161:8;189:17;  
 191:13,15,16,17,19,21;  
 200:22;201:7;206:9,  
 10,18;288:8;323:14,  
 16;401:18,19;402:13  
**forensically (6)**  
 241:10,14;401:21;  
 402:3,4,22  
**forensics (34)**  
 13:13;23:17,18,19,  
 20,21;31:11,13;33:8,8,  
 11;34:6;37:5;38:21;  
 40:2,5,6;41:7,49;13;  
 52:7;55:21;56:5;60:21;  
 61:4;64:4;65:4;79:11,  
 12;90:18;99:9;110:13;  
 144:19;158:3;398:19  
**forgot (3)**  
 123:13;125:19;367:5  
**form (12)**  
 111:19;150:10;

156:12;185:6;209:8;  
 229:1;242:14;258:18;  
 300:11;302:6,11;  
 421:19  
**format (57)**  
 67:15,16;68:7,8,11;  
 77:18,18;93:18,18,18;  
 94:7,7,8,11;95:2,5,22;  
 96:4,5,6,9,21;97:22;  
 98:16,17,17,18;99:2,3,  
 5;100:5,6,11,12,12,21,  
 21;124:2;153:21,22;  
 154:3;158:2;168:18;  
 175:19;181:12;182:11,  
 13,14;189:16;206:3,6;  
 207:7;233:6,7;283:16;  
 289:19;324:8  
**formats (4)**  
 98:13,14;99:6;  
 112:21  
**formed (3)**  
 231:13;288:21;302:7  
**forth (5)**  
 34:11;125:18;127:8;  
 287:3;377:3  
**forty-two (1)**  
 283:5  
**forward (15)**  
 19:21;151:3;161:16;  
 181:21;239:15;269:1;  
 287:2,11;288:12,14,18;  
 346:8;362:6;365:7;  
 408:21  
**found (26)**  
 113:2;119:7,15;  
 163:5,16;166:22;  
 167:2;187:11;190:15;  
 194:21;200:22;201:6;  
 207:2;289:3;291:5;  
 334:3;337:16,19;  
 341:21;350:21;355:21;  
 364:16;370:1;400:10;  
 402:10;410:16  
**four (29)**  
 9:21,21;25:19,20;  
 26:14;29:9;34:3;76:4;  
 93:7;117:16,16,17;  
 133:14;153:9;169:19;  
 171:18;172:6;184:13;  
 192:5;202:20;276:4;  
 282:6;347:17,18;  
 359:6;369:15,15,16;  
 375:9  
**Fourteen (1)**  
 282:5  
**fraction (2)**  
 238:14,17  
**fractions (2)**  
 247:19;248:14  
**Fraley (1)**  
 140:16  
**frame (103)**  
 132:13;172:13;

177:9,14;182:2,4;  
 190:22,22;193:21,21;  
 195:14,16;199:9,10,10;  
 211:4,4;212:11;219:6;  
 221:6,6;225:20;238:4,  
 5;239:1;240:11,21;  
 247:6,16;260:6;265:6,  
 21;266:14,16;277:14,  
 15;280:8,8,19;294:21;  
 297:7,15,22;299:21;  
 303:6,9,13;304:5,9;  
 305:4,19;306:11,20;  
 307:1,10,17,21;308:9;  
 309:12;320:11;321:3;  
 322:2;332:8;333:7;  
 336:15,17;340:4,6;  
 342:19,22;344:11,14,  
 19;349:10;359:8;  
 361:12;362:7;365:9,9,  
 9,19;367:18;369:2;  
 373:6;374:11,12;  
 375:10,11;378:5,11,13;  
 381:13,18,22;388:14;  
 397:8;400:22;416:1;  
 418:14,17;419:12;  
 420:2,17  
**Frame-by-frame (2)**  
 195:5,6  
**frames (66)**  
 132:8,14;169:4;  
 177:13;178:1,9,9,10,  
 12,13,13;181:18,19,22;  
 182:6;199:5;211:5;  
 221:7,19;242:5,8,12;  
 244:3;245:1,17;248:9,  
 11,12,15;250:1;253:5;  
 277:5;285:19;289:5;  
 300:6;303:7,19;304:3,  
 19;305:16;306:5,16;  
 307:5,15;308:3,14;  
 309:4,13;310:1;334:2,  
 3;340:9;349:9;359:7,  
 17;360:8,17;362:11,  
 20;375:9;378:13;  
 380:2,5;422:11,12,13  
**Fredericksburg (2)**  
 4:7,8  
**freeze (1)**  
 182:4  
**front (13)**  
 156:14;228:6;255:3,  
 4;289:11;323:6;  
 367:14;391:3;404:20,  
 22;410:7,15,19  
**FTK (2)**  
 183:17;191:14  
**fulfilled (2)**  
 9:6;19:12  
**full (14)**  
 4:19;113:22;114:1;  
 184:14;263:10;280:19;  
 303:6;305:19;306:19;  
 307:17;309:12;340:17;

367:18;369:2  
**full-time (2)**  
 8:3,4  
**function (24)**  
 39:21,22;40:3;81:11;  
 95:10;96:7;115:19;  
 157:2;167:12;168:6,9;  
 175:6;190:21,21;  
 191:2,5,6;206:1;215:3;  
 216:17,19;219:13;  
 261:22;413:3  
**functions (4)**  
 81:9;169:7;192:16;  
 215:11  
**fundamentals (2)**  
 14:1;32:7  
**funneled (1)**  
 25:4  
**further (18)**  
 6:22;150:1;162:16;  
 163:11,20;187:15,15,  
 16;194:19;217:17;  
 261:14;302:14;334:13;  
 343:16;373:18;374:14;  
 421:4,6  
**future (1)**  
 274:3

## G

**games (2)**  
 26:8,8  
**gap (2)**  
 238:6,9  
**gaps (4)**  
 178:6,22;238:3;  
 239:6  
**Garland (1)**  
 52:22  
**gather (2)**  
 139:12;187:3  
**gave (12)**  
 8:6;21:10;145:13;  
 152:18;158:3;168:18;  
 210:12;253:11;289:1;  
 300:13;301:19;310:10  
**gear (1)**  
 18:1  
**geared (3)**  
 18:7;19:2;59:17  
**geez (2)**  
 25:17;60:10  
**general (10)**  
 18:12;20:13;51:2,3;  
 185:6;235:12;275:10;  
 301:19;328:13;361:20  
**generally (1)**  
 102:17  
**generate (3)**  
 137:7,17,18  
**generated (6)**  
 136:20,21;137:3,6,  
 11;150:11

gentleman (1) 268:5	grab (1) 61:20	285:5,13;297:12	207:20;215:9;236:20; 277:7;309:7;335:1,12; 337:6,9;343:19;344:2; 346:4;363:8	252:3,4;286:4;314:21; 316:15,16,17,22;317:4; 318:11;319:9,13; 320:10,12;324:17,20; 325:5,7;327:6,9,11,14, 16;329:21;330:3; 334:21;354:15,16; 366:20;367:7,8,10; 368:16,22;370:18; 371:8,9;373:11; 374:10,17,21,22;375:6, 8,13,17;376:2;377:22; 378:16;379:9;380:6; 381:2;382:4,17;384:2, 9;385:22;386:4,6,21; 387:22;388:4,5,11,12; 393:22;394:4,5,11; 395:8;396:7,16,21; 397:3,13;398:14,15; 399:5,15;400:16; 401:6,18;404:16; 405:3,12,19;406:3,5, 21;407:2,5,15;408:15; 409:3;411:19;412:10, 11,12;414:17;416:12, 14;417:18;418:11,18; 419:14,19;420:5,15
genuineness (1) 146:3	graduated (4) 14:9;16:13,13;30:2	hand (1) 28:6	headquarters (1) 165:11	highlighted (3) 328:20;372:1;381:9
Georgia (2) 15:13;41:17	grand (1) 123:2	handling (2) 164:2;231:21	hear (4) 160:18;344:10; 409:20;420:10	highlighting (2) 80:17;121:9
GeoVision (7) 167:12,16,18,22; 183:1,2;220:11	graph (1) 353:22	hands (1) 220:17	heard (4) 78:9;109:4;214:15; 242:21	highlights (59) 104:8;112:7;121:11; 231:21,22;244:4,12; 257:20;258:9,10; 259:15;265:15;271:16, 17;274:3;280:10; 304:14;305:11;307:11; 308:21;309:9,16,19; 314:7;315:16;317:11, 12;319:6;324:14; 327:18;331:11;333:20; 352:5;358:13;359:1; 370:2;373:5;377:1,4; 381:11,17,21,22;382:2; 384:5;386:3,7,10; 398:2;400:4,9;401:12, 16;402:15,20,21; 412:21;413:7,18
Germany (5) 30:22;31:1,5;32:9; 33:6	graphic (1) 105:19	happen (9) 5:6;166:3,5,7,16; 175:20;192:14;260:7; 322:3	Height (25) 72:16,19;231:1,3,4; 337:4,7;340:11;341:4; 342:14;343:18;345:11, 17;346:1,3,16;347:3,4; 348:2;350:19;358:19; 359:7;362:10;365:18; 378:19	highly (1) 107:22
gets (1) 297:4	gravitate (1) 120:7	happened (11) 51:15;54:4,5;142:11; 210:20;219:13;228:2; 344:18;365:2;418:2; 420:21	hearing (2) 134:16;136:10	hip (1) 400:18
Gigabyte (5) 151:16;184:22; 185:1;220:8,9	gravity (1) 320:19	happening (7) 53:5;177:19;300:20, 21;301:7;399:22;419:2	Height (25) 72:16,19;231:1,3,4; 337:4,7;340:11;341:4; 342:14;343:18;345:11, 17;346:1,3,16;347:3,4; 348:2;350:19;358:19; 359:7;362:10;365:18; 378:19	hired (4) 38:6,19,19;40:8
given (22) 6:19,21;14:11;63:11; 94:1,96:17;97:1;148:9; 149:4;150:4,14;152:6, 10;217:16;255:5; 281:5;283:14;300:14; 348:1;376:11,12;392:4	gray (3) 106:13;257:21; 280:11	happenings (1) 210:15	held (1) 61:17	hit (1) 108:9
gives (15) 71:9;85:2;89:14,18, 22;90:19;105:17; 161:4;192:17;204:10; 320:13;323:14;328:3; 342:1;355:16	great (1) 130:9	happens (8) 30:21;32:21;178:4; 218:8;240:12,13; 249:10;313:3	height/width (3) 341:4,5,5	Hold (12) 69:12;184:14; 205:22;237:17;282:1, 1;383:9;416:8,21,21; 417:1,19
giving (9) 90:18;96:10;149:15; 164:1;168:21;240:18; 352:6;380:15;388:17	green (1) 87:2	happy (1) 267:4	heights (2) 72:16,22	holding (1)
glasses (1) 333:9	ground (5) 20:10;143:11; 335:13;337:5;350:4	hard (66) 57:21;81:11;133:1; 135:21;150:20;153:6; 157:13,18;158:6,6,11, 18;165:1,6,9,14; 166:21,22;168:14; 169:13;170:1,4,9,10, 11,16,17;183:11,16; 185:2;190:1,14,17; 191:9,11,12;192:8; 193:12,13,18;194:3,12, 15;195:2,14,19;196:4; 197:21;200:3,13,15; 212:22;213:4;219:18, 20,21;224:21;252:14; 253:11;255:5;283:4; 312:10,13,14,17; 323:21	held (1) 61:17	
glean (1) 208:17	ground-to-air (1) 26:6	hard (66) 57:21;81:11;133:1; 135:21;150:20;153:6; 157:13,18;158:6,6,11, 18;165:1,6,9,14; 166:21,22;168:14; 169:13;170:1,4,9,10, 11,16,17;183:11,16; 185:2;190:1,14,17; 191:9,11,12;192:8; 193:12,13,18;194:3,12, 15;195:2,14,19;196:4; 197:21;200:3,13,15; 212:22;213:4;219:18, 20,21;224:21;252:14; 253:11;255:5;283:4; 312:10,13,14,17; 323:21	help (5) 61:3;127:9;241:11; 280:22;311:8	
Glenn (4) 254:5;255:20;267:3; 268:20	Group (8) 16:3;123:18;124:10; 197:3;225:21;276:14; 330:16;412:13	happy (1) 267:4	helped (4) 34:5,6;222:8,10	
Glynco (2) 15:13;41:17	groups (1) 211:19	hard (66) 57:21;81:11;133:1; 135:21;150:20;153:6; 157:13,18;158:6,6,11, 18;165:1,6,9,14; 166:21,22;168:14; 169:13;170:1,4,9,10, 11,16,17;183:11,16; 185:2;190:1,14,17; 191:9,11,12;192:8; 193:12,13,18;194:3,12, 15;195:2,14,19;196:4; 197:21;200:3,13,15; 212:22;213:4;219:18, 20,21;224:21;252:14; 253:11;255:5;283:4; 312:10,13,14,17; 323:21	helpful (2) 219:9;380:10	
goal (1) 159:4	GS-14 (1) 41:10	hard (66) 57:21;81:11;133:1; 135:21;150:20;153:6; 157:13,18;158:6,6,11, 18;165:1,6,9,14; 166:21,22;168:14; 169:13;170:1,4,9,10, 11,16,17;183:11,16; 185:2;190:1,14,17; 191:9,11,12;192:8; 193:12,13,18;194:3,12, 15;195:2,14,19;196:4; 197:21;200:3,13,15; 212:22;213:4;219:18, 20,21;224:21;252:14; 253:11;255:5;283:4; 312:10,13,14,17; 323:21	helping (2) 33:12;241:15	
goes (13) 52:14;85:7;95:1; 136:9;145:12;146:11; 161:16;197:18;219:20; 302:4;350:7;361:6; 415:6	guessing (2) 158:10,12	hard (66) 57:21;81:11;133:1; 135:21;150:20;153:6; 157:13,18;158:6,6,11, 18;165:1,6,9,14; 166:21,22;168:14; 169:13;170:1,4,9,10, 11,16,17;183:11,16; 185:2;190:1,14,17; 191:9,11,12;192:8; 193:12,13,18;194:3,12, 15;195:2,14,19;196:4; 197:21;200:3,13,15; 212:22;213:4;219:18, 20,21;224:21;252:14; 253:11;255:5;283:4; 312:10,13,14,17; 323:21	helps (2) 241:18;281:2	
Good (13) 47:15;154:1;213:14; 227:7;236:10;239:11; 251:17;270:7;387:15, 17;397:10;403:7;417:1	guidebook (1) 34:6	hardware (1) 135:14	here's (2) 179:5;314:16	
Gotcha (3) 10:21;157:9;204:12	gun (1) 45:16	harm (1) 130:9	Hey (25) 5:8;49:3;94:19; 107:13;117:5;142:5; 145:3;150:16;159:12; 164:1;168:5;179:14; 186:17;209:16;235:16; 237:9;242:1;249:11; 251:15,16;252:3; 271:16;344:13;403:3; 422:1	
government (6) 10:18;22:12;46:10; 241:11,15;245:5	guy (2) 339:8;410:19	hash (21) 87:22;88:1,2,3,5,21; 89:1,1,5,6,7,9,11; 91:16;114:11;128:6,6, 8,9,12,13	high (4) 230:16;231:8,9; 347:1	
GPS (3) 14:4,6;23:22	guys (2) 227:4;403:3	hate (1) 253:20	high-definition (1) 217:3	
	H	hats (1) 379:6	higher (3) 64:10;342:6;417:8	
	H264 (12) 285:19;300:5; 303:19;304:19;306:5, 16;307:4,15;308:3,14; 309:4;310:1	head (26) 5:15;30:16;42:3; 78:17;79:5,19;117:7; 126:5;135:13;136:1; 192:4;200:6;201:5;	highlight (124) 231:18,20;233:5; 243:16,19,20;244:7,8, 16;245:8;247:14; 251:2,6,11,18,21;	
	hallway (3)			



22:3 <b>Hospitality (1)</b> 4:7 <b>hour (1)</b> 61:14 <b>hours (15)</b> 9:1,2,2,19,22;11:1, 13,16;12:9,10,14,19, 21;313:5;348:21 <b>House (1)</b> 4:7 <b>Houston (1)</b> 42:15 <b>HQQ00 (1)</b> 153:10 <b>HQQ002790 (3)</b> 151:11;184:22;220:8 <b>HQQ002791 (2)</b> 184:22;220:9 <b>HQQ002792 (3)</b> 185:1;220:12;323:19 <b>HQQ151001002 (1)</b> 323:18 <b>huh (1)</b> 236:16 <b>human (3)</b> 239:20;259:22;411:9 <b>hundred (9)</b> 5:12,13,20;6:3,7,10, 11;282:6;290:19 <b>hundreds (1)</b> 109:2 <b>Huntsville (2)</b> 16:4;33:10 <b>hurt (1)</b> 110:20 <b>hurts (1)</b> 241:19	363:16;367:12;368:18; 370:20;379:11;394:2; 402:21;422:16 <b>identified (11)</b> 53:22;188:1,14; 197:14;203:9;205:20; 217:5;253:11;254:16; 364:21;368:12 <b>identify (21)</b> 142:13,19;144:22; 156:9;159:6,8;173:10; 186:19;201:11;204:9; 209:17;210:1;233:4; 274:15,16,19,20;315:4; 319:8,9;359:3 <b>identifying (8)</b> 171:5;186:12;187:2, 7;189:15;215:22; 255:3;311:9 <b>ie (2)</b> 70:18;74:20 <b>image (196)</b> 31:13;60:21;61:4; 69:2,4,18;71:20;80:5,7, 8,12,13,20,22;81:3; 83:15;84:3,12;86:3,6; 87:5,8;88:10;90:1,2,5, 8,11;93:15,20,21;94:4, 20;96:10,19;98:4,5,7, 11;99:10,20,22;101:17, 19;104:2,4;105:12; 107:4,5;109:8,10,12, 12;114:6,17;115:15; 116:16,17;117:12; 118:3;119:8,9,21,22; 120:13;128:12,12,12, 13;135:7;161:9; 183:17;189:8;200:22; 201:7;212:5;214:12, 13,20;218:12,14;227:8, 9;228:8;229:2,7;231:3; 233:14;235:17,18,19, 19;236:6,11,21;242:6; 247:2;248:22;250:14; 252:20;257:3,9,11,15, 16,22;258:13,14,16,18; 259:1,3,6,10,19;260:9; 261:12,16;262:1; 263:11,12,16;264:5; 265:10,12;267:3; 271:2,6,7;272:12; 275:17;280:6,12; 282:5,11;288:7;291:4, 12,13;319:14;322:9, 14;323:17;329:16; 330:7;332:18;333:6; 334:17;335:14;338:14, 19,21,22;339:2,3,20, 21;340:17,18,19;341:1, 11,11,11,22;343:21; 344:11;346:21;353:14, 16;356:4;363:19; 364:15,17;367:22;	374:2;380:4,14;392:3, 10,11;395:3;399:16; 404:3,6;405:9;415:14, 15,17,17,20;416:1,3,7, 15;421:2 <b>imagery (73)</b> 47:10,18,19;48:1; 49:10;52:8;56:1,3,4; 59:18;67:3,6,9;68:13; 69:6,7;70:2;71:21; 74:18;76:9,17;77:11, 14;80:1,15;85:3,18,22; 86:9;91:1,2;93:2,17; 108:11;109:3;110:16; 111:5,22;112:8; 115:22;118:5,7,17; 119:13,18;120:1; 127:7;174:4;216:1; 232:5;233:8;234:11, 13;235:22;240:16; 251:7;260:12;263:7; 264:2;268:8;271:11, 12;275:11;317:15,17, 20;318:12;328:9; 332:5,7,19;344:5; 382:4 <b>images (83)</b> 68:21;69:17,17; 70:11,21;72:18;76:18; 88:15;98:5;103:9; 121:2;141:4;147:19; 161:10;173:19;178:21; 179:2;181:10;189:8; 194:19;195:14;215:20; 224:20,21;225:5,7,9, 11;227:15;228:1,21; 230:22;245:19,22; 246:9;247:3;258:9; 264:3;265:14,17; 275:12;276:7,13,19; 279:19;280:2,17; 282:7,11,12,13,14,14, 15,15,16,18,19,21,22; 283:1;290:22;310:11; 316:11;324:5;328:14, 15;336:11;340:16; 341:12;345:5;358:18; 359:15;363:1;365:20, 22;366:9,10,16; 370:16;376:18;394:14; 399:16 <b>imagine (11)</b> 50:17;79:13;86:4; 149:18;162:22;166:15; 170:9;234:21;235:15; 244:22;265:13 <b>imaging (2)</b> 49:9,9 <b>IMEL (7)</b> 4:2,11,20,21;133:3; 134:22;145:4 <b>Imel's (2)</b> 134:14;136:15	<b>immediately (1)</b> 178:3 <b>immunity (1)</b> 130:8 <b>import (2)</b> 100:6;206:10 <b>important (23)</b> 5:1,11;93:21;105:3; 124:14,17;129:5; 181:5;191:22;211:6; 227:15;230:20;231:5; 233:1;234:21;235:16; 241:9;251:10;271:4; 318:16,22;345:22; 374:1 <b>imported (2)</b> 284:4;308:20 <b>IMPRESS (2)</b> 63:2,14 <b>improper (1)</b> 289:5 <b>inaccurate (2)</b> 87:3;317:9 <b>inch (1)</b> 257:22 <b>inches (2)</b> 347:18,18 <b>incident (7)</b> 155:17;164:10; 185:7,10;187:5;210:5, 12 <b>incidents (1)</b> 412:22 <b>in-classroom (1)</b> 9:17 <b>include (2)</b> 136:16;321:10 <b>included (2)</b> 43:4;148:10 <b>including (1)</b> 96:11 <b>inconsistencies (1)</b> 199:6 <b>incorrect (1)</b> 122:4 <b>incorrectly (2)</b> 100:2;421:21 <b>increase (11)</b> 114:16;115:14,21; 117:12,17;118:12; 119:20;121:13;280:18; 281:3;332:5 <b>Increased (1)</b> 259:1 <b>increases (2)</b> 119:8,18 <b>increasing (5)</b> 109:8;115:5;119:21; 120:1,5 <b>indeed (1)</b> 321:19 <b>independent (1)</b> 283:21	<b>indicate (1)</b> 207:16 <b>indicated (12)</b> 18:17;54:4;122:2; 142:14;185:5;207:21; 351:15;384:10;394:17; 395:4,20;419:19 <b>indicates (2)</b> 122:14;246:13 <b>Indicating (33)</b> 128:22;130:13; 156:13;157:2;228:17; 247:10;295:9;332:21; 334:18,22;338:15; 340:17;341:6,11; 343:8,20;346:7,8; 350:4,11;353:16; 354:8;360:10;361:13; 362:8,19;365:16; 368:5;378:18;383:11; 392:8;412:15;415:10 <b>individual (75)</b> 67:21;68:3;70:14,16; 73:20;106:21;129:7; 138:19;139:13;142:16, 21,22;144:12;153:1; 169:6;172:14,16,20; 173:2,6;185:18,21; 187:20;188:7;202:7; 209:20;210:13;214:1; 249:12;251:9;266:15; 268:11,13;271:9; 277:2;335:11;337:17; 340:3,3,6;341:15,19; 342:2,5;345:17; 346:10,11,13,14;347:8; 351:6,8,9;352:1;360:9; 361:13;362:3,5,16; 364:4,20;365:11; 378:17;383:3;384:15; 385:21;388:14;391:3, 5;407:3,16;412:19; 414:18;418:18;419:6 <b>individually (1)</b> 209:12 <b>individuals (31)</b> 66:6;67:17;72:17; 73:4;121:12,12;141:6; 144:11,14;172:4; 173:10;228:3;229:2; 245:18;249:6,8,9; 250:6;271:14;274:21; 284:10;286:17;287:20; 288:17;292:15;298:19; 337:14;340:9;348:3; 360:15;366:1 <b>individual's (5)</b> 337:6;363:8;376:4,8; 420:6 <b>influence (3)</b> 66:19;302:6,10 <b>info (1)</b> 89:17
---	---	--	--	---

I

**IAI (2)**  
123:14;125:9  
**Iber (1)**  
197:22  
**ID (1)**  
185:20  
**idea (17)**  
10:12;107:3;139:5;  
152:5;153:12;155:14;  
159:10;161:4;234:6;  
251:17;263:14;274:4;  
279:3;287:21;288:2;  
310:10;400:14  
**identical (10)**  
89:10;193:18;195:3;  
213:5;220:18;256:10;  
283:16;336:18;337:2;  
366:13  
**identification (17)**  
4:17;123:15;212:9;  
268:10;325:19;338:10;  
345:16;358:8;360:22;

information (41) 90:17;91:7;92:10; 95:11;96:11;99:4,6; 104:10;152:18;163:21; 164:1;186:9;200:4; 217:17;218:9,10,11; 219:5,11,14;228:1; 232:22;250:9;265:7, 11;277:1;310:18; 323:15;337:16,17; 343:12;346:9;348:7, 13,16;349:13;350:16, 22;351:2;364:13;399:6	119:6,8;128:10,14; 164:4 intends (1) 134:15 intensity (1) 110:4 intent (2) 351:20,20 interaction (4) 141:6;159:16; 284:10;341:21 interactions (1) 210:17 Interagency (3) 14:12;31:15;32:5 interest (46) 86:3,4,7;92:20; 104:6,18;106:20; 142:15;145:1;159:9, 16;160:9,12;169:22; 171:8,10,11,16;172:3, 14,17,20;173:6;185:3, 6;188:14;189:6,16; 193:9;201:2,9,12,22; 202:5;203:19;205:12, 14,21;209:3,5;232:8, 11;273:15,16;281:3; 284:11 interested (2) 90:21;209:16 interesting (1) 83:13 Intergraph (2) 16:3;33:10 interior (1) 189:1 internal (4) 48:8;53:19;54:20; 55:13 international (3) 43:3,7;123:14 interpolate (1) 117:9 interpolating (1) 214:12 interpolation (16) 109:7;114:15;115:3, 13;116:2,13,13,19,21; 118:10,15,19;214:7,9, 11;216:16 interpolations (1) 120:14 interrogation (1) 15:7 interrupt (2) 214:6;371:4 interviewed (1) 28:2 interviewing (1) 15:6 interviews (1) 23:13 into (100)	9:1;32:15,18;35:12, 19,21;36:5,8;60:7; 66:22;67:4,15,20;68:8; 80:9;81:8,8,10,11; 85:22;86:14,18,20,21; 93:18;99:10,12,21; 100:6,6;105:2;108:5; 121:8,16;125:5; 131:21;136:18;140:15; 153:14;154:7;166:5, 21;168:10;170:10,16, 17;171:17;173:2; 174:20;176:1,7,21,21; 182:18,18;186:1; 188:10,11,16,17; 189:16,17;191:15; 194:4;198:18;200:21; 206:6,7,9,10;207:6,7,8; 208:5;212:13;229:17; 249:13;250:7;259:7; 274:7,7;284:12; 314:21;315:3;324:8; 327:7;330:22;335:9; 336:15,20;341:19; 344:5;351:9;363:14; 373:11,12,12;376:13; 412:18;421:19 introduce (1) 134:15 investigate (2) 244:14,22 investigation (4) 70:4;163:11,12; 245:16 Investigations (38) 13:20,21;14:16,19; 21:17;22:16;23:10,11, 12,16;24:1;27:21; 28:11,21;29:10,13; 30:1;31:2,3;33:4,12; 34:12;36:6;37:1;39:12; 45:11;46:2;51:21; 55:16,19;57:15;58:1; 59:6,9,11,12;68:14; 69:8 investigative (10) 17:13,19,22;23:14; 42:21;46:4;48:20; 55:16;59:21;70:7 investigator (6) 52:20;53:11,11;54:7, 8;164:12 Investigators (5) 42:22;52:19;61:13, 18;65:9 invoke (1) 68:21 involved (5) 73:6;185:19,21; 187:20;348:3 involvement (1) 313:16 involves (1)	130:2 iPhone (4) 381:2,9;406:1;408:9 Iraq (1) 34:17 issue (7) 5:11;166:13;177:9; 385:10;387:12;409:14; 414:3 item (18) 116:16;118:3; 152:11;157:12;220:11; 261:7;264:9;327:4; 334:10,11;352:14,15, 19;353:6;368:12; 370:7,9;381:8 items (17) 30:7;149:8;151:10; 157:20,22;158:22; 163:11;190:3;212:22; 241:1;261:6;294:1; 303:4;326:10;336:20; 362:4;373:19 iterations (2) 34:5;102:2 J James (3) 140:5;161:6;323:7 January (4) 4:6;32:7;130:3; 213:9 job (9) 11:9;23:13;46:11,12, 17;47:3;61:7;241:16; 251:16 Jobs (1) 45:3 joined (1) 8:10 JPEG (3) 90:4;91:3;99:4 judge (1) 377:14 judges (1) 65:10 judgment (2) 112:1,2 July (5) 7:6;16:10;37:22; 43:6,13 jump (3) 13:8;68:15;389:13 June (6) 8:10;13:10;15:15; 18:6;24:11;25:17 jury (8) 66:6;234:17;326:17, 17;327:1;333:4; 377:14;410:11 justice (10) 8:16;18:20;19:3;	20:13,14;21:16,17; 22:15;23:10;57:15 K keep (9) 72:3;75:7,8;299:1; 300:8,9;306:17; 396:18;397:20 keepable (1) 93:4 keeps (4) 119:5,6,7,19 Keesler (3) 11:12;25:20,21 kept (1) 124:4 kid (1) 13:6 kidding (2) 128:6;422:4 kids (1) 46:13 Kim (1) 124:5 kind (19) 10:12;20:5;43:19; 46:21;48:4;80:11; 83:13;150:16;164:3; 166:16;232:19;319:20; 325:8;328:6;331:16; 348:17;371:1;395:7; 412:16 Kingston (1) 151:16 knee (1) 385:2 kneeling (5) 337:18;340:13; 348:8;351:4;365:1 knew (3) 59:7;127:15;162:11 knowing (1) 261:15 knowledge (2) 101:4,6 knowledge-based (1) 79:12 known (3) 74:10,11,12 knows (1) 167:11 Koenig (3) 78:1;125:20;126:7 Koenig's (1) 79:18 Korea (4) 26:11,12,15;27:3 L lab (3) 41:7;310:10,22
--	---	---	---	---

<b>label (1)</b> 203:16	46:14	22;384:3,16,18,19,20, 21,22;385:1,10,11,11, 12,13,15,17,18,18; 386:22;400:18;404:10, 13,17;418:16,19; 419:18,20;420:6	173:12;405:5	6:13;7:22;33:7;39:3; 43:17;46:6;47:13;48:4; 62:3,16;93:21;158:5; 163:20;183:16;204:21; 211:8;214:5;228:11; 230:7;234:20;239:9; 247:9;251:10;258:6; 268:1;269:18;272:14; 276:22;285:9;286:19; 316:9;327:19;328:3; 330:20;332:4;343:16; 361:2;368:4;394:18; 412:17
<b>labeled (2)</b> 203:17;255:16	<b>layman's (4)</b> 80:11;84:11;194:15; 301:7	<b>legs (19)</b> 296:20;377:10; 382:13,14,19,21,22; 383:6;391:19;392:5,6, 18,20;393:12;400:5, 17;408:14;411:20; 417:5	<b>lighten (4)</b> 107:20;109:12; 266:14;271:20	<b>Live (4)</b> 42:9,9,16;336:17
<b>laboratories (1)</b> 113:1	<b>Layperson (14)</b> 58:22,22;264:17; 269:8;298:21;299:12; 315:4;344:6;345:3,13; 346:15;349:8,14;365:6	<b>length (2)</b> 73:12;168:18	<b>lightened (1)</b> 109:15	<b>Live/Forensic (1)</b> 42:5
<b>Laboratory (11)</b> 35:11;38:22;39:12; 50:11;61:1;62:4;65:3; 135:9,10;376:15; 399:13	<b>layperson's (2)</b> 296:16;299:14	<b>less (4)</b> 104:8;219:11;239:1, 3	<b>lightening (2)</b> 80:17;104:6	<b>local (1)</b> 33:12
<b>Lacey (2)</b> 125:21;126:1	<b>lead (2)</b> 128:4;234:17	<b>letter (13)</b> 129:6,13;131:2,8,19, 20,21;146:5,7,9,11,13, 15	<b>lighter (3)</b> 328:16;370:8;395:8	<b>locate (2)</b> 93:1;185:3
<b>lack (3)</b> 106:3;240:13;329:1	<b>leading (2)</b> 410:5,14	<b>LEVA (4)</b> 61:17;124:21;125:9, 11	<b>lighting (1)</b> 380:12	<b>located (5)</b> 73:4;184:15;381:14, 18;413:9
<b>Lackland (4)</b> 34:14,19;35:7,10	<b>leads (2)</b> 288:10,15	<b>level (13)</b> 105:9;110:5;218:7; 247:12;280:10;330:22; 331:8;332:20;341:22; 342:14;345:13;346:19; 363:12	<b>lightness (5)</b> 105:11,14;327:21; 359:15;394:17	<b>location (4)</b> 14:6;91:5;265:9; 371:22
<b>lady (1)</b> 421:21	<b>lean (1)</b> 347:13	<b>license (3)</b> 66:20,21;85:19	<b>lights (3)</b> 234:8;397:10,11	<b>locations (1)</b> 188:13
<b>laid (1)</b> 221:19	<b>leaned (1)</b> 347:17	<b>lieu (1)</b> 40:2	<b>liked (1)</b> 37:15	<b>locked (1)</b> 62:3
<b>Lakenheath (10)</b> 11:17,19;12:9,13; 24:22;25:4,22;26:1,1; 27:10	<b>leaning (9)</b> 344:4;346:7,7,8; 347:9;348:6,8;351:4; 362:6	<b>light (58)</b> 81:5,6,9,14;231:14; 232:8;233:2,10,15,22; 234:22;235:2;243:20, 22;244:9;261:11; 265:5;291:3;315:8,9; 320:8,19,22;322:6; 323:3;324:21;325:3; 328:21;329:17;354:10; 372:15,21;373:13; 378:2;384:11,12,13; 386:5;395:4,7;396:12; 397:6,10,12,14,14; 403:17;408:2,4,11; 412:9;415:12,21; 416:4;417:3,4,8;419:4	<b>likewise (4)</b> 259:16;260:2; 263:13;265:13	<b>locking (1)</b> 15:1
<b>laptop (2)</b> 256:17;310:21	<b>learn (1)</b> 388:1	<b>light-colored (1)</b> 239:19	<b>limit (3)</b> 18:13;111:13;169:9	<b>lock-picking (1)</b> 15:4
<b>large (2)</b> 4:5;192:1	<b>learned (3)</b> 14:3;19:21;388:7	<b>lighted (2)</b>	<b>limited (6)</b> 169:13,15;216:15; 217:22,22;382:3	<b>locks (1)</b> 15:3
<b>larger (2)</b> 214:13;334:21	<b>learning (3)</b> 12:10,15;15:19		<b>limits (3)</b> 216:7;231:9;332:20	<b>London (2)</b> 27:10,12
<b>last (18)</b> 79:1,1;97:5;124:12; 129:18;140:10;146:19, 19;153:9;182:2; 211:15;220:3;225:2; 229:15;276:12;291:21; 309:11;386:14	<b>least (27)</b> 21:9;33:18;48:18; 62:10;64:17;97:4; 103:3;104:11,15,17; 106:8;122:2;126:18; 127:3;134:8;163:10; 165:2;166:21;185:18; 228:1;246:13;302:7; 309:11;312:12;335:9; 397:4;419:11		<b>line (14)</b> 52:8;54:17;68:21; 90:16;95:6;118:11,13; 136:11;294:3;300:10; 343:18;363:2,6;366:15	<b>long (21)</b> 18:15;19:16;26:18; 30:17;31:5;34:22;36:9; 37:6;39:8;40:16;64:19; 70:14;82:5;84:22; 103:16;112:20;122:17; 123:2;219:19;316:13; 335:3
<b>later (19)</b> 56:2;127:11;151:1; 153:4;155:17;165:12; 194:2,11,15;242:17; 261:3;274:8;302:6,10; 369:15,16,16;418:20; 421:15	<b>leave (3)</b> 41:20;251:18;277:21		<b>lined (3)</b> 196:22;212:21; 213:17	<b>longer (2)</b> 7:22;8:1
<b>latter (1)</b> 170:1	<b>leaves (3)</b> 285:5,12;364:10		<b>lines (4)</b> 118:16,17;119:5; 216:20	<b>longest (1)</b> 124:20
<b>law (14)</b> 5:16;15:12;32:16; 35:20,21;36:1;44:5; 45:21;124:21;165:8; 388:15;390:10,15; 402:20	<b>leaving (3)</b> 44:8;187:18;257:17		<b>linked (9)</b> 190:16,19;376:4; 381:14,19;396:14; 413:11,21;414:14	<b>look (105)</b> 5:8;6:11;17:4,12; 18:4;30:16;49:1;52:14, 16;54:6;65:6;69:20; 77:21;78:12,22;94:19; 104:19;107:13,14; 111:14;138:9;139:18; 145:3;146:8;147:3; 150:9;160:11;161:12; 162:5;166:11,17,18; 186:17;209:17;211:10; 217:11,16;220:5;
<b>lawyers (2)</b> 47:8;65:10	<b>left (31)</b> 143:14;171:19,21, 22;172:1;187:10,11; 202:22;203:6;204:3,6, 7,17;277:19;284:6,6,8; 322:18;330:8;341:9; 343:14;346:13,18; 351:7;361:17;368:6; 385:16;393:12;394:20; 395:2,3		<b>list (9)</b> 7:6;10:4;17:21; 147:13,19,19;148:21; 149:8;268:19	
<b>lawyer's (1)</b> 165:11	<b>left-hand (6)</b> 176:9,18,18;177:7; 341:15;369:4		<b>listed (9)</b> 16:10,20;18:5;24:3; 50:4;91:8;175:17; 184:10;209:14	
<b>lay (12)</b> 5:17;47:6,7,13; 136:13;296:11;386:19; 388:2,17;390:11,16; 411:22	<b>leg (39)</b> 298:6,7,8,17;299:8, 19;383:2,10,13,14,19,		<b>listen (9)</b> 168:6;237:9;242:1; 249:12;251:15,16; 387:5;422:1,4	
<b>laying (1)</b>			<b>listing (3)</b> 21:3;53:5;226:11	
			<b>lists (1)</b> 90:11	
			<b>little (40)</b>	

223:21;224:22;225:8; 226:12,21;227:9,13; 236:6;237:3,17; 238:10;241:8;242:14; 245:2;246:20;249:22; 251:1;255:16;257:17; 260:13,18;263:14; 264:4;266:5;269:2; 271:1,9,22;272:5; 275:16;279:14;290:2; 3,317:1,5;321:21; 322:8,13;323:5; 325:19;326:1;328:15; 329:10;332:10;344:14; 349:7;353:14,18,21; 358:4,22;359:8; 369:13;372:21;375:3; 394:4;395:2;396:5; 397:8,9;399:2;400:8; 411:10,16,22;412:2; 413:5	<b>looks (35)</b> 16:8,10;23:7;24:11; 33:18;38:9;40:18; 41:22;60:15,16;61:7,8; 62:5,7,14;63:10;148:7; 13,19;171:17;204:3; 233:15,19;238:8; 247:12;259:14;261:2; 288:18;317:8;339:8; 361:2,19;363:1; 365:21;369:8	<b>Mainly (2)</b> 15:8;101:1	<b>marked (21)</b> 4:16;6:18;147:2; 252:14,17,18;255:16; 338:8;358:5,6;360:20; 367:9,11;368:17,21; 370:19;371:8;379:10; 394:1;403:14;422:14	<b>MD5 (1)</b> 114:11
322:8,13;323:5; 325:19;326:1;328:15; 329:10;332:10;344:14; 349:7;353:14,18,21; 358:4,22;359:8; 369:13;372:21;375:3; 394:4;395:2;396:5; 397:8,9;399:2;400:8; 411:10,16,22;412:2; 413:5	<b>looked (31)</b> 28:11;119:12;124:1; 144:2;149:7;150:6,16; 164:5;179:9;186:11; 187:12;199:9;209:1; 221:5;246:2;319:21; 322:1;328:13,14; 336:9,10,10;355:20; 361:21;362:5;367:5; 369:22;397:22;398:1; 415:6,20	<b>maintained (4)</b> 24:20,22;25:5,9	<b>marker (1)</b> 301:5	<b>mean (83)</b> 8:3;11:5;19:18;20:1; 1,28:4;30:10;35:14; 41:9;57:2;58:20;75:2; 82:4;87:18;90:3,9; 91:2;96:20;97:11; 106:9;110:1,6;111:2; 113:8,10;116:11; 121:4,19;124:19; 125:6,14;132:3,5,12; 140:18;156:21;163:22; 164:19;166:12;168:22; 172:19;175:1;177:4; 178:7,11;179:16; 183:7,9;184:10;186:8; 199:1;215:9;217:20; 218:4;220:12,20; 229:13;230:14,21; 261:11,14;291:16; 292:7,7;298:20;311:5; 320:17;332:12;338:19; 349:8;351:14;360:14; 366:7;371:3,17; 372:19;375:19;380:3; 20;385:7;397:8,22
49:22;52:1;62:6; 63:1;64:18;76:13; 77:12,12,13,14,15; 92:8,18;108:7,8;114:1; 119:14;121:5;124:7; 155:15;157:19;159:13; 171:20,21;172:21; 173:6;188:16;190:6; 197:6,7;199:5,10; 202:21;204:4,5;212:8; 215:19;216:2;225:1,3; 9;237:1,9;238:20,22; 241:9;261:12;262:2; 19,22;263:1;265:10; 267:16;273:14;275:17; 18;276:15,19;281:2; 295:15;300:18;317:7; 322:16,17,19;325:1,4; 10,16;328:19;329:5,6; 6;330:16;332:13; 337:12,18,19;338:4; 339:4,17;342:8;343:4; 9;355:10,11;358:15; 362:12;364:6;367:16; 368:22;374:3,4; 375:16;378:7,15,16; 385:20;388:7,8; 395:22;399:6,8,22; 404:1,3;410:10,22; 420:10,11,11	<b>lossless (2)</b> 99:2,5	<b>major (1)</b> 97:12	<b>marking (2)</b> 255:9;256:3	<b>MARTIN (52)</b> 49:3;95:20;96:2; 129:4,7,13;137:10; 140:7,12;160:18; 204:21;235:1,6; 245:11;252:11,16; 253:1,4,7,9,13,17,21; 254:3,7,9,13,15,18,22; 255:7,13,18,22;256:2; 258:7;267:7,10; 272:21;276:17;277:5; 293:15;294:12;295:9; 311:14;313:4;339:12; 16;387:2,9,13,16
205:19;208:14;211:3	<b>lossy (1)</b> 99:5	<b>majority (1)</b> 103:2	<b>Marla (1)</b> 124:4	<b>mask (1)</b> 112:8
	<b>lost (3)</b> 218:11,17;228:11	<b>Make/model (4)</b> 75:15;76:3;80:4; 120:20	<b>markings (1)</b> 294:7	<b>mass (12)</b> 25:11;327:5;330:9; 15,18,18;355:21;356:1; 3;357:4;369:5,6
	<b>lot (46)</b> 22:17,18,20;32:13; 14;33:14,21;64:3,9; 65:3,5,16,17;66:5; 67:14;72:13;76:20; 77:8,11,20;78:13;83:3; 85:5,6;86:10,19;91:13; 101:7;104:6;118:22; 119:15;124:2;132:19; 151:1;165:5;170:13; 197:21;199:18;219:22; 220:13;228:21;260:5; 311:6;356:8;403:9; 416:17	<b>make/models (2)</b> 75:9,11	<b>Martin (52)</b> 49:3;95:20;96:2; 129:4,7,13;137:10; 140:7,12;160:18; 204:21;235:1,6; 245:11;252:11,16; 253:1,4,7,9,13,17,21; 254:3,7,9,13,15,18,22; 255:7,13,18,22;256:2; 258:7;267:7,10; 272:21;276:17;277:5; 293:15;294:12;295:9; 311:14;313:4;339:12; 16;387:2,9,13,16	<b>matched (1)</b> 380:16
	<b>love (1)</b> 246:18	<b>making (12)</b> 67:22;193:16; 212:20;239:17;264:18; 327:1;342:5;353:12; 358:22;372:20;401:6; 409:5	<b>mask (1)</b> 112:8	<b>material (2)</b> 48:20;376:12
	<b>low (6)</b> 120:7;130:11; 131:22;132:3;215:18; 328:6	<b>man (2)</b> 143:4,16	<b>mask (1)</b> 112:8	<b>materials (2)</b> 78:22;134:18
	<b>lower (6)</b> 107:22;119:16; 176:18;264:11;350:7; 394:18	<b>management (1)</b> 23:15	<b>mask (1)</b> 112:8	<b>mathematical (1)</b> 323:2
	<b>lowest (2)</b> 216:19;330:6	<b>Manager (3)</b> 24:14;25:14;28:2	<b>mask (1)</b> 112:8	<b>matter (4)</b> 193:22;200:19; 217:12;333:12
	<b>lunch (3)</b> 205:19;208:14;211:3	<b>manipulate (1)</b> 236:7	<b>mask (1)</b> 112:8	<b>may (32)</b> 5:19;6:12;7:7,19; 12:21;16:5,11,17; 21:19;24:5;39:3;40:19; 22;85:5,6;86:6;122:3; 137:14;147:16;211:8; 228:2,10;237:17; 265:8;291:14;302:6; 310:9;312:10;399:16; 405:22;409:2;422:3
	<b>M</b>	<b>manipulated (1)</b> 76:14	<b>mask (1)</b> 112:8	<b>maybe (11)</b> 9:22;36:11;60:11,16; 62:16;109:4;225:7; 232:14;233:19;239:19; 251:17
	<b>machine (2)</b> 33:8;179:15	<b>manipulation (1)</b> 222:21	<b>mask (1)</b> 112:8	
	<b>machinery (1)</b> 310:4	<b>manner (2)</b> 30:5;332:16	<b>mask (1)</b> 112:8	
	<b>main (11)</b> 39:10,21,22;40:3,10; 55:15,18;64:17;99:9; 131:15;225:4	<b>ManTech (2)</b> 41:2,12	<b>mask (1)</b> 112:8	
		<b>mantra (1)</b> 325:8	<b>mask (1)</b> 112:8	
		<b>manual (2)</b> 168:10;183:8	<b>mask (1)</b> 112:8	
		<b>manufacturer (1)</b> 64:1	<b>mask (1)</b> 112:8	
		<b>many (25)</b> 5:17;9:2;18:15;60:8; 77:10;84:12,13;88:15; 125:14;145:8,9; 154:19;161:18;170:11; 12;179:17;180:2,15; 184:12;264:7;293:14; 364:12;401:17;402:19; 403:3	<b>mask (1)</b> 112:8	
		<b>Marathon (2)</b> 167:19;390:22	<b>mask (1)</b> 112:8	
		<b>March (4)</b> 12:10;14:18,18;29:4	<b>mask (1)</b> 112:8	
		<b>Marin's (1)</b> 283:5	<b>mask (1)</b> 112:8	
		<b>mark (6)</b> 252:11;255:18; 258:10;267:11;338:6; 379:8	<b>mask (1)</b> 112:8	

<p>measurements (24) 69:11;72:8,12;73:13; 315:8,11;327:1,3; 328:9;331:2,3;348:2; 349:13;381:16;382:2; 7;383:15;388:10; 400:7;401:2;407:7,8, 10;413:13</p> <p>measures (1) 354:2</p> <p>measuring (2) 321:19;356:12</p> <p>mechanics (1) 211:7</p> <p>mechanism (1) 175:14</p> <p>Media (54) 53:1;65:6,8,11;76:7; 77:17;87:16,20,22; 88:6,8,11,12,15,21; 89:14,16,17,17;90:12, 20;91:16,20;93:6; 94:10;114:10;126:19; 128:17;136:22;137:8, 18;147:19;148:3,7,8,9, 13,16,19,20,21,21; 149:4;155:22;156:6,8, 9;161:10;163:8; 198:21;200:8;220:11; 323:18;334:14</p> <p>medical (1) 414:11</p> <p>meeting (3) 346:5;348:20;403:2</p> <p>Meg (1) 75:12</p> <p>Meline (1) 124:5</p> <p>member (1) 7:12</p> <p>memorialize (2) 149:14,19</p> <p>memorized (2) 51:1;197:9</p> <p>mental (2) 252:2;274:2</p> <p>mentioned (3) 114:13;177:8;323:8</p> <p>menu (1) 225:4</p> <p>mess (2) 214:20;270:12</p> <p>messes (1) 226:17</p> <p>metadata (10) 77:12;90:10;91:8; 92:8,10;175:16;176:1; 193:9;196:16,17</p> <p>method (6) 113:14;146:2; 164:12;283:17,19,19</p> <p>methods (2) 82:7;164:11</p>	<p>MICHAEL (2) 277:22;338:6</p> <p>MICHAELS (46) 225:4,10,15,17; 231:20;236:9;246:18; 256:15,17;270:14,20; 272:22;273:4,7; 277:14,16,19;314:11; 315:15,22;316:14; 330:2;335:2;336:5; 338:11;339:13,18; 358:4,9;360:19;361:1; 367:13;368:19;370:21; 371:7,11;379:7,12; 394:3;398:8;403:13; 409:21;410:2,8;415:2; 421:5</p> <p>Microcomputer (1) 12:18</p> <p>Mid (1) 28:16</p> <p>middle (13) 227:1;241:7;330:21; 343:22;344:9,10; 346:11,21;361:8; 362:17;363:19,20; 378:2</p> <p>might (7) 97:12,12;127:18; 131:17,18;137:12; 232:17</p> <p>miles (1) 26:14</p> <p>military (5) 10:13;25:1;28:12; 35:19;36:1</p> <p>mind (4) 10:9;61:20;123:6; 344:7</p> <p>Mine (5) 23:15;226:12;255:4; 268:17;287:16</p> <p>mini (1) 43:17</p> <p>minimal (2) 104:14;125:13</p> <p>minor (5) 32:19;67:16;114:1; 309:10;332:4</p> <p>minute (3) 211:15;235:1;260:7</p> <p>minutes (3) 114:14;243:1;369:16</p> <p>misabeled (2) 202:21;203:1</p> <p>misquoted (1) 387:16</p> <p>misread (1) 148:19</p> <p>misrepresents (1) 287:6</p> <p>missing (3) 94:16;95:7;156:11</p>	<p>mission (1) 358:21</p> <p>Mississippi (3) 11:12;25:20,21</p> <p>mistitled (1) 367:8</p> <p>mobile (1) 61:1</p> <p>mode (5) 257:21;258:22; 280:11;401:18,19</p> <p>model (3) 73:12;75:16;191:7</p> <p>modified (3) 73:8,15;76:14</p> <p>moment (2) 406:10;420:21</p> <p>monitor (1) 113:18</p> <p>month (2) 22:22;37:21</p> <p>months (13) 9:22;21:10;23:5; 25:20;34:17;40:22; 41:3,13,14;56:2;92:21; 122:6,7</p> <p>moon (1) 74:16</p> <p>more (57) 13:6;32:10,13,14,17, 18;33:7,14,21;34:5; 64:4;72:19;80:10,16; 89:20;97:18;98:6; 100:17;102:15;116:5; 136:7;153:5;155:16, 18;191:22;209:15; 211:8;214:11;219:11; 222:12;226:12;250:9; 265:12;266:2;269:19; 272:14;275:5;276:4, 14,22;277:9;280:17; 293:14,16;301:3; 302:1,18;306:18,19; 330:17;333:7;335:10; 342:13;361:2;373:13; 386:4;416:17</p> <p>Moreno (4) 28:19;29:3;30:20; 31:1</p> <p>morphed (1) 125:5</p> <p>most (21) 5:1;13:11;16:9; 20:18;21:9;23:14;64:3, 7;72:6;79:9;94:9; 106:7;127:22;142:7; 147:5;154:14;178:2; 179:20,22;216:3,21</p> <p>motion (18) 68:22;130:6,7; 132:10;179:8,9,20,21; 180:19;282:9;284:21; 286:10,11;287:9,20;</p>	<p>405:19;407:19,20</p> <p>motion-activated (1) 177:22</p> <p>mouth (1) 144:16</p> <p>MOV (27) 91:4;100:13;282:7,9, 12,15,17,20;283:1,4; 284:15;285:18;300:5; 303:19;304:19;305:16; 306:5,16;307:4,15; 308:3,14;309:3;310:1; 422:11,12,13</p> <p>move (15) 37:17,19;45:1;49:3; 128:12;167:8,8; 187:12;227:7;269:1; 347:13;377:10;395:18; 396:7;415:17</p> <p>moved (19) 25:15,21,22;26:2,11; 27:1,3,4;30:22;31:10; 32:22;34:9;44:21; 187:11,15;190:14; 327:6;380:16;408:4</p> <p>movement (66) 73:21;141:5,5;180:5; 240:10,20;249:9,16,18; 265:6;266:21;286:3, 16;294:2;372:22; 373:4;376:5;377:6,20; 378:12;383:10;384:14; 385:5,22;386:22; 388:3;390:19;391:2,2, 20,22;392:4,9,17,18; 393:11;394:11;396:15; 403:18,20;404:2,8,15, 16,19,22;405:3,4,16; 406:3,13,15,20;407:3, 14;408:15;412:13; 413:18;414:16,17; 415:22;416:4;418:16, 19,21;419:6</p> <p>movements (37) 171:8,10;185:13; 187:9;210:9;230:6; 268:15;284:9;286:20; 365:15;376:7,7,8; 382:13;384:3,15; 385:20;387:22;388:12, 13;396:6;400:5,10,16, 17,20;406:12;407:15, 16;409:11;411:3,19; 412:11,14,19,20;420:6</p> <p>moves (12) 284:12;297:5;372:4; 374:11;377:20;384:3; 395:15,17;404:11; 408:1,2;413:22</p> <p>movie (4) 130:4;380:11,13; 381:4</p> <p>moving (13) 144:16;287:20; 360:15;373:11;374:9; 377:15,16;392:20; 396:14;400:4;404:4; 405:19;414:6</p>	<p>MP (1) 98:21</p> <p>MP4 (1) 91:4</p> <p>Mrs (2) 145:7,7</p> <p>MS-DOS (1) 12:19</p> <p>much (20) 62:1;65:14;80:10; 107:19;131:21;147:21; 195:8;218:6;219:5; 220:2;226:20;238:9; 259:6;260:10;265:7; 270:17;291:5;311:5; 339:11;416:19</p> <p>multiple (18) 30:17;64:13;67:19; 68:5;103:17;113:2; 163:4;193:1;210:13; 215:6;263:7;265:4; 271:3;355:13;357:13; 381:10;408:22;409:2</p> <p>multiply (1) 117:11</p> <p>multiplying (2) 119:22;120:5</p> <p>multitude (9) 10:14;49:16;69:3; 116:2;169:5,6;208:12; 353:13;358:18</p> <p>munitions (1) 25:10</p> <p>must (2) 128:19;360:5</p> <p>myra (1) 77:19</p> <p>myramid (3) 77:19,20;281:11</p> <p>myself (13) 40:3;83:1;85:11; 110:18;140:21;142:18; 162:6;174:5;181:7; 189:17;249:18;255:12; 298:10</p>
N				
<p>naked (5) 91:22;92:3,17;195:7; 261:8</p> <p>name (12) 4:19;77:22;78:9; 125:22;126:2;129:7; 140:6,11;185:15; 192:2;294:16,16</p> <p>names (2) 108:14,18</p>				

<b>narrow (1)</b> 53:7	379:4	<b>Number (83)</b> 6:8,9,19;24:12;76:2; 80:7;88:7;89:11,13; 91:18;99:16;111:20; 123:4;128:20;129:2; 133:6,9,12,14;135:4; 147:2;148:11;151:13; 171:22;203:6;233:19; 256:15;303:10;304:5; 305:4;313:5;314:16; 318:17,22;320:13; 323:6;324:4;328:4; 332:8;338:3,9,12; 344:19;351:7;353:1, 19;358:5,7;360:19,21; 361:20;367:9,9,12,15; 368:17,20,21;369:8; 370:10,20,22;371:1,8, 9,12;378:7;379:10; 381:7;382:21,21; 388:16;392:6,10,11; 394:2,5,6,8;403:15,16; 404:1;422:15	<b>Obviously (9)</b> 5:1;7:4;13:14;80:10; 129:21;240:10;273:13; 363:13;369:13 <b>occasion (2)</b> 85:12;131:15 <b>occasions (3)</b> 61:14;85:15;265:4 <b>occurred (2)</b> 210:5;227:13 <b>occurs (1)</b> 299:19 <b>October (1)</b> 314:4 <b>off (29)</b> 6:17;7:3;24:17; 30:15;46:14;49:13; 50:1;73:11;78:16;79:5, 19;126:5;130:1;161:5; 165:20;175:7,8,9; 176:4;184:21;192:4; 200:3;215:9;313:1,12, 15;317:1;399:19,20 <b>offer (1)</b> 122:12 <b>offered (3)</b> 41:7,11;136:17 <b>Office (23)</b> 13:19,21;19:8;27:21; 37:2;41:1;45:10,22; 47:16;50:21;55:18; 58:7;59:8;60:7;61:19; 64:17,21;161:6;165:3, 12,13;195:20;402:18 <b>officers (2)</b> 45:21;61:3 <b>offices (1)</b> 4:7 <b>official (2)</b> 31:20;243:7 <b>Off-the-record (1)</b> 371:6 <b>off-the-shelf (4)</b> 30:6,8;35:18,18 <b>often (2)</b> 290:12;421:12 <b>OJT (3)</b> 12:2;125:17;127:21 <b>old (1)</b> 287:3 <b>older (1)</b> 410:14 <b>once (11)</b> 16:13,13;19:12;95:5; 112:9;124:6;157:3; 166:21;193:20;199:21; 343:18 <b>one (258)</b> 6:8;11:14;12:13; 15:18;19:4,16;22:22; 26:19;31:9;40:21;42:1; 43:5;44:17,18;49:11; 50:4,22,22;51:2,8,12,	15,18;53:10;57:9; 59:10;62:8,9,17,17; 63:11,14;64:16;69:9; 72:6;73:21;74:5;75:2; 78:18;79:20;84:7,18, 18;88:17,19;89:11; 99:9;107:13;108:22; 115:4;116:3;117:15; 118:12;120:9;121:4, 18;125:1,2;126:11; 127:20;128:5,15; 133:6;138:9;143:8,10; 144:21;152:12;159:7; 163:3;167:9;169:16, 19,21;171:7;172:6,10, 12,18;174:2,19;176:8, 20;177:3,4,5;181:14, 15;184:11,11,13; 192:20;193:22;195:10; 199:9,12,13;200:18,22; 201:7;202:2,5;203:4; 205:22;206:5;211:19; 212:9,21;213:16; 215:8;216:18;219:2,3; 220:18;222:15;224:15; 225:19;228:13,14,16; 229:20;236:13,15,17; 237:17;238:4,12,13; 239:15;240:11,21; 244:5,6;246:20; 247:19;248:3;249:5; 251:2,19;258:8,20; 261:7;263:11;266:5,8; 276:9,12,14;282:7,8, 12,15,17,20,20;283:1, 2,2;284:2,12;287:2; 289:17;291:20,21; 293:15;294:5,6; 295:19,19;300:8; 301:22;303:22;313:17; 314:3;316:7,18; 317:18;318:17;321:22; 322:4,12;329:18; 330:17,18;332:19; 334:2;338:5;339:4; 341:22;342:5,6,13; 343:22;345:18;349:2; 353:2,3,6,13;354:2,2; 355:2;357:21;358:11; 360:3;361:4,6,17; 362:17,19;364:4,6; 365:10,15;367:6; 369:11;370:9,15; 371:17,20;375:10; 378:5,5,6,6,15;379:13; 382:21;383:9,10; 388:6,16;391:9,19; 392:4;393:11;394:12, 16,18;395:2,14,17; 399:2,16;400:22; 401:3,3;402:5;406:10; 407:4,21;409:14,15; 412:10,14;415:7;
<b>natty-gritty (1)</b> 198:19	<b>nobody (10)</b> 139:10,15,17,18,18; 143:22;145:2,2,3; 274:10	<b>Numbers (2)</b> 4:16;239:1 <b>numeric (1)</b> 320:22 <b>numerical (2)</b> 81:7;111:19 <b>Numerous (1)</b> 68:18		
<b>National (7)</b> 42:22;52:19;53:1,11; 54:8;61:12;132:15	<b>node (1)</b> 25:5 <b>nodes (2)</b> 26:16;27:13 <b>nodes (11)</b> 5:15;42:3;117:7; 135:13;136:1;200:6; 201:5;236:20;277:7; 309:7;335:1	<b>o</b>		
<b>natural (1)</b> 5:18	<b>none (3)</b> 145:9;195:18;269:20 <b>nonenhanced (3)</b> 237:2;269:15;276:16 <b>nonexpert (1)</b> 126:22 <b>no-no (1)</b> 6:1 <b>nonscientific (2)</b> 298:20;384:6			
<b>near (2)</b> 271:14;419:5	<b>nor (2)</b> 125:9;251:5 <b>normal (7)</b> 23:22;95:10;168:7,9; 178:3;217:21;268:16 <b>normally (12)</b> 62:1;73:1;114:2; 146:11;196:3;213:13; 216:3,22;218:18,19; 288:11;340:5			
<b>Nearest (20)</b> 109:5;114:13,14,15, 19;115:2;116:1,6,15, 18,22,22;117:16,18; 118:3,8,9,14,18,21	<b>Nope (1)</b> 359:4 <b>nor (2)</b> 125:9;251:5 <b>normal (7)</b> 23:22;95:10;168:7,9; 178:3;217:21;268:16 <b>normally (12)</b> 62:1;73:1;114:2; 146:11;196:3;213:13; 216:3,22;218:18,19; 288:11;340:5			
<b>necessarily (7)</b> 79:16;118:1;124:16; 209:22;238:5;407:21; 408:13	<b>no-no (1)</b> 6:1 <b>nonscientific (2)</b> 298:20;384:6			
<b>necessary (3)</b> 51:8,13,18	<b>North (1)</b> 26:14 <b>Notary (1)</b> 4:4 <b>notation (1)</b> 421:22 <b>note (4)</b> 274:3;302:7,17; 381:21 <b>notes (14)</b> 156:15,16;201:18, 19;290:3,6,9;295:13; 296:4;300:15;301:18; 303:2;316:1;339:15 <b>notice (3)</b> 4:5;242:4;286:8 <b>noticed (1)</b> 242:7 <b>November (6)</b> 16:4;42:5;44:13; 46:20;52:3;54:5 <b>NTSC (3)</b> 68:8;132:7,15 <b>nuclear (1)</b> 20:8			
<b>need (15)</b> 10:10;61:21;63:8; 103:18;136:13;140:20; 154:22;180:9;228:9; 252:3,4;253:8,10; 255:11;256:20	<b>needed (4)</b> 154:18;155:3; 190:13;194:18 <b>needs (3)</b> 61:22;86:12;411:17 <b>negative (2)</b> 195:12,16 <b>Neighbor (19)</b> 109:5;114:13,14,15, 19;115:2;116:1,6,15, 18,22,22;117:19;118:3, 8,9,14,18,21 <b>neither (1)</b> 201:11 <b>Netherlands (2)</b> 62:22;63:1 <b>network (3)</b> 26:6;91:14,15 <b>neutralization (2)</b> 15:1;17:16 <b>new (2)</b> 124:12;157:3 <b>Next (30)</b> 11:14;12:7;35:9; 51:12;80:3;99:8,15; 103:6;112:5;114:3,4,5; 115:5;133:1;134:21; 146:5;205:21;229:15; 238:5;278:1;293:4,5,6, 7;304:21;305:18; 308:16;313:11,16,17 <b>nice (1)</b> 313:7 <b>night (2)</b> 152:13;153:3 <b>nine (4)</b> 359:7;365:22;378:8;			



416:1;418:20 <b>one-for-one (1)</b> 85:22 <b>ones (39)</b> 13:6,7,12;15:8,8; 16:9,17,22;17:9;18:10; 30:14;52:2,12,12;53:8; 54:4,5;72:6;117:16; 119:10;120:12;134:7; 190:22;198:14;199:11; 218:19;221:8;226:6; 241:1;246:11,14; 271:22;282:2;312:5,7, 10,11;357:20;415:7 <b>one's (3)</b> 11:1;140:1;409:6 <b>one-week (1)</b> 61:2 <b>ongoing (1)</b> 34:7 <b>online (3)</b> 22:8,9,18 <b>only (45)</b> 30:7;53:8;62:7;79:2; 114:22;125:2;127:18; 132:10;170:6;171:12; 176:20;179:8;182:11; 255:4;259:13;270:7; 271:19;275:5;276:4, 14;277:9;293:15; 298:22,22;302:19; 306:18;312:1,18; 315:6;317:2;319:16; 342:15;345:1,4; 351:21,22;353:13; 375:10;381:12;383:1; 406:9;408:20;416:3; 418:3,6 <b>on-the-job (2)</b> 12:5;32:13 <b>onto (16)</b> 81:9;126:17;192:10; 297:21;303:13;305:22; 306:9,10,21;307:8,9, 19;308:7,8,20;336:17 <b>open (10)</b> 35:18;67:16;77:18; 93:18;94:7;96:9;100:6, 12,21;206:6 <b>operating (13)</b> 50:14;65:20;69:21; 70:10;90:15;91:12; 158:3;165:4;170:3; 183:22;184:4;197:2; 326:8 <b>operational (2)</b> 190:18,18 <b>operationally (1)</b> 167:1 <b>opine (12)</b> 144:18;210:4;288:7; 298:11;299:13;301:6, 15;364:12;376:21;	384:6,10;396:10 <b>opined (5)</b> 300:20;301:17,18; 384:12;401:17 <b>opines (1)</b> 66:14 <b>opinion (116)</b> 65:17;67:6;70:11,15, 20;209:10;210:6,22; 211:1;220:6,7;221:2, 13,21;222:4;232:4; 234:3,7,10;242:14,16; 243:5,7;249:14;263:6, 18,18,22,22;264:1,1; 265:5;266:1,18;268:7, 14;269:7,19;271:10; 275:21;277:4;278:11, 17;279:7;281:4,9; 288:2,4,5,6,21;289:1; 292:1,4,12;296:7,9,11, 13;300:13,18;301:1,2; 302:8,13;311:16,17,18, 20;312:4,5,9;319:11; 325:13;326:4,11,14; 333:12,22;335:4; 348:4,12,18;359:11,14, 19;368:13;375:21; 376:1;377:18,19; 382:8;384:2;385:9; 386:20;388:2,17; 390:10,11,16;393:9; 398:12,20;399:3; 411:21,22;412:4; 413:17;414:5,7,8,10, 11,13,22;419:9 <b>opinionated (2)</b> 126:17;197:17 <b>opinion-based (6)</b> 71:1,7;127:1,6; 325:11;399:1 <b>opinions (24)</b> 69:22;127:6,12; 135:17;209:8;231:14; 272:15;273:19,21; 277:3;281:5,8;299:16; 300:11,14;302:6,11,15; 312:19;327:8;333:18; 386:20;413:5,6 <b>opportunity (1)</b> 255:5 <b>opposite (2)</b> 203:7;287:14 <b>opted (1)</b> 340:7 <b>options (2)</b> 6:8;192:17 <b>oral (1)</b> 4:1 <b>oranges (4)</b> 325:18;379:19; 391:9,11 <b>order (16)</b> 52:6;68:2;112:9;	117:9;141:3;150:14; 157:9;178:5;186:19; 193:12;208:13;274:4; 355:15;357:17;359:10; 365:20 <b>origin (8)</b> 324:13,16;325:1,6; 327:4,10;333:10;359:3 <b>original (70)</b> 89:8;95:2,3,14,15,16, 21,21;96:3,5,6,21;97:3, 22;100:14;110:2; 114:9;128:10,15; 133:17;136:14;146:1; 158:11,20;163:10; 164:8;165:20;167:10; 168:16;175:21;180:12; 193:3;196:4,6,7,9; 214:14;224:20;225:14, 15,21;266:6;267:19, 21;270:20,21;271:8; 273:10;274:10,11,13; 282:12,17,19,22;311:6; 317:15;324:7;326:19; 328:9,10;332:7,13,20; 333:5;336:15,18; 352:22;362:15;407:14 <b>originally (6)</b> 80:16;97:1;111:15; 128:18;213:15;317:18 <b>originals (2)</b> 196:11;282:15 <b>origination (1)</b> 316:17 <b>OSI (7)</b> 16:14;27:17,19; 29:12;30:3;34:14;36:5 <b>others (1)</b> 329:19 <b>otherwise (2)</b> 258:17;302:17 <b>ought (3)</b> 105:2;271:16;293:20 <b>Oulson (10)</b> 145:5,7;210:1; 334:14;335:4;339:22; 347:10;362:13;365:22; 379:17 <b>ours (2)</b> 224:22;226:19 <b>out (119)</b> 24:10;33:10,12,22; 34:4,9;35:20;44:3,15; 55:9;59:5;62:20;64:14; 65:11,13,15;67:15,20; 75:21;77:6,9;93:17; 94:14;95:5,9;97:7; 98:12,13;99:14;100:5, 8;102:2;107:19;114:9; 116:2;125:2;127:15; 135:8;144:2;145:2; 154:15;163:16;166:19; 168:17;169:2;171:13,	20;173:4;184:10; 187:11;188:10;189:16; 190:15;192:18;196:20; 198:12;200:12;202:12; 206:4,5;207:7;210:11; 213:2;216:22;217:6,6, 15;219:14,21;244:21; 248:19;250:18,19,20; 251:19;257:17;264:13; 269:17;271:20;274:11; 277:1,1,20,21;280:6; 281:16;282:2;285:18; 303:19;304:19;305:16; 306:5,16;307:4,15; 308:3,14,18;309:3; 310:1,14;316:10; 317:15,18;319:16; 326:9;327:7;328:9,12; 332:7,18;333:6; 335:22;344:15;376:14; 380:6;381:8;410:2; 418:6 <b>outcome (2)</b> 141:7;370:13 <b>output (25)</b> 67:20;96:7;110:5; 111:14,17,19;112:10, 21;114:10;154:21; 183:6;217:11;354:9; 360:10;368:1,3;369:9; 370:4;371:20;372:5; 373:2,6;374:14; 375:11;394:13 <b>outputs (1)</b> 169:5 <b>outside (10)</b> 69:18;188:7;201:16; 205:5,6,7;285:13; 297:12;398:6;408:22 <b>over (79)</b> 4:22;9:21;10:15,17, 22;20:11;34:4;39:9; 44:21;52:16;62:21; 68:11;74:1;78:13,22; 89:8;112:22,22,22; 124:6;127:11,21; 128:3,13;143:1;157:2; 165:10,11,21;167:20; 174:7,7,7,8,8;184:10; 188:16,20;190:14; 195:15;212:13;221:19; 225:7;260:18;261:1; 264:7;267:6;275:10; 287:12,12,12;294:13; 315:16;317:7;324:3,3, 21;331:15;341:5,5,6, 343:7,8,8,15;344:9; 350:9,11,13;353:12; 375:16,16;378:13; 380:5;385:18;404:19; 412:15;414:18,18 <b>overall (2)</b> 93:3;266:13	<b>overlaid (2)</b> 174:20;213:7 <b>overlay (12)</b> 51:2;96:10;169:5; 176:2;195:12,13; 196:15;199:4,13; 207:3;211:19;336:16 <b>overlying (1)</b> 195:15 <b>overlays (5)</b> 211:18;212:3,5,12; 222:20 <b>overseas (5)</b> 18:1;60:22;61:2,3; 68:7 <b>overstep (1)</b> 142:17 <b>overview (7)</b> 89:18;145:14; 149:22;152:6,10; 162:2;176:3 <b>own (9)</b> 93:8;173:10;255:5; 274:4,22;344:7; 349:14;358:10;411:17 <hr/> <b>P</b> <hr/> <b>PACE (1)</b> 12:8 <b>packages (1)</b> 30:11 <b>page (8)</b> 129:5,9,10,11; 151:11;155:21;363:3; 413:5 <b>pages (3)</b> 18:15;197:21;306:18 <b>PAL (2)</b> 68:7,11 <b>pants (2)</b> 267:8,9 <b>paper (2)</b> 55:8,11 <b>paperwork (1)</b> 22:17 <b>Paradigm (9)</b> 38:7,19;39:1,2,10, 21;42:7,20;44:9 <b>paragraph (3)</b> 133:1;134:8,21 <b>parallel (1)</b> 363:2 <b>parameters (3)</b> 168:22;181:3;232:13 <b>parcel (1)</b> 53:2 <b>parenthesis (2)</b> 151:17;156:19 <b>part (17)</b> 53:2;65:20;76:9; 101:14;151:12;156:8; 175:2,5,8;274:9;
---	--	--	--	--



384:18,21;385:1,12; 387:1;388:3;390:19	patron (1) 130:3	335:15;340:11;342:8; 11,11,17,17,18;343:5; 6,11,13,14,15,20; 344:3,19;345:3,6,8,9; 11,12,14;346:14,16,18; 347:21,21,22;349:11; 351:4,21;359:8,17; 361:7,8;362:7;363:16; 364:13;365:14;400:11; 406:4;419:5	116:19;117:8;212:12; 215:3;322:10,12; 327:20;332:17;333:21; 352:9;357:9,19;386:12	353:7,7,7,13;354:2,2, 11,12,15;355:3,5,8,16, 16,17;373:4
partially (1) 130:5	pay (1) 265:20	personal (1) 30:7	physical (5) 29:9;52:15;74:17; 143:2;188:1	pixillation (1) 325:3
particular (108) 6:2,22;9:11,13; 16:20;46:20,22;65:1; 101:21;107:15;109:21; 116:20;117:8;118:2; 130:18;131:19;132:9; 142:8;147:3;152:11; 155:4;165:1;171:3; 174:19;176:6;177:18; 181:12;195:10;198:7; 203:20;227:8,15; 228:1;229:7;231:2; 232:8;247:2,6,16; 250:1;251:8;257:16; 258:8;259:19;263:12; 16;264:5;265:3,12,20, 21;266:16;268:4; 271:1,5;272:12; 276:16,19;280:1,3; 289:4,4;290:16; 291:10,13;292:2; 293:3;314:20;319:7; 15;320:10,10,11,14; 321:4;328:2;329:11; 331:4;332:8,19; 333:12;335:15;336:7; 338:22;339:20;340:4; 344:14,15;352:10; 353:2;354:22;355:11, 19,21;356:4;375:9; 378:15;385:8;386:5; 15;400:3;401:3,3,18; 404:6;405:9;416:15; 420:15	pedophilia (1) 59:14	personally (3) 126:9;127:17;185:20	physically (2) 91:19;105:15	place (43) 21:18;67:5;73:4,9, 14,18,21;97:9,10; 102:21,22;136:11; 157:16;167:9;173:7; 218:2;227:14;231:2; 245:3;249:7;271:5; 272:16;278:21;279:4; 284:21;292:2;302:9; 310:11;311:15;318:6; 331:13;335:8;337:2,3, 7;340:6;341:21; 343:18;363:21;366:16; 372:2;378:11;412:16
particularly (1) 377:7	peer-reviewed (7) 77:6;78:14;79:3,8, 10;402:16,17	person's (5) 335:16;343:19; 344:2;346:1,3	pick (8) 15:3;106:3,17,22; 108:3,5;204:22;355:14	placed (31) 68:21;157:18;222:7; 294:9,19;296:20; 297:5,13,20;299:20; 303:10,12,15;304:6,8, 11;305:4,6,22;306:10; 307:9,20;308:8;328:3; 334:4;358:18;360:15; 366:10,11,14;398:2
parties (1) 271:6	people (20) 5:17;18:15;36:7; 46:14;55:17;59:8; 66:10,10;73:18; 123:18;124:3;125:6; 126:2;205:11;213:18; 219:22;233:8;261:2,4; 336:20	perspective (2) 301:7;379:21	picked (4) 27:22;165:14; 187:10,16	placement (7) 73:2,3;83:22;391:5; 394:11,22,22
parts (2) 385:5,8	per (9) 22:22;48:11;132:14; 177:9,13;234:4; 257:22;283:5;359:19	pertains (1) 146:5	picture (5) 218:12;257:13; 367:17,18;378:2	places (3) 74:1;157:5;181:9
part-time (1) 8:2	perceive (1) 300:19	pertinent (18) 161:11,13,15,17,18; 162:4,5;248:20;249:3, 5,22;250:2,3,9,10,13; 273:14,14	pictures (3) 201:19;361:14,15	placing (1) 112:8
Pasco (2) 130:4;165:13	perceived (1) 159:17	phone (10) 142:10;154:15; 232:18,20;339:9; 399:17,18;405:5; 419:3,4	piece (2) 157:4;325:16	plain (1) 363:12
pass (11) 297:3,11;298:4; 299:5;300:4;306:3,13; 307:3,12;308:1,11	percent (42) 5:12,13,20;6:3,7,10, 11;86:7;106:1;121:15, 16;220:14;281:2; 290:13,18,19,19,22; 291:2;294:11,22; 295:1;297:1,2,8,9,16, 17;298:1,2;299:3,4,22; 300:1;304:16,17; 305:13,14,15;306:14; 307:13;308:12	photogrammetry (5) 69:10;72:7,10;335:8; 340:5	pilot (1) 36:6	plan (1) 71:11
passed (1) 294:14	percentage (7) 290:1,6,7;291:5,7,9, 11	photo (9) 113:15;155:19; 156:2,4,5,7;268:4; 352:15;415:6	pin (1) 82:16	Plank (1) 4:8
passive (1) 295:19	percentile (1) 290:12	photograph (6) 69:11;72:13;331:19; 341:1;364:9;380:14	pinpoint (1) 105:21	plate (3) 66:20,21;85:19
past (6) 73:5;188:18,21; 284:17;294:15,19	perception (1) 249:11	photographed (2) 148:1,5	pixel (73) 81:8;83:22;84:6,9; 86:1,2;115:5,10; 117:15;132:11;179:10; 180:1,8;214:7,9,12; 320:14;321:3,14,21; 322:2,6,22;323:3; 327:5;329:11,14; 330:6,7,8,8,8,10,15,16, 17,18,22;334:2,3; 341:3,9;352:11,12,18, 21;353:2,6,22;354:14, 16,17;355:6,14,17; 356:2,7,12;357:7,8; 369:5,5,9;370:4; 371:20;372:5;373:2,6; 374:14,16;386:18; 394:13;401:3	platform (6) 51:20,21;63:18; 100:7,20;103:13
pathologist (1) 414:12	Perfect (3) 54:16;380:20,22	photographic (13) 47:3,5;56:18;57:1,8; 58:16,17,21;70:18; 71:18;72:6;127:5; 414:15	pixelate (1) 291:4	platforms (5) 44:19;55:6;64:5,18; 357:13
pathway (1) 234:18	perfectly (1) 224:2	photographs (5) 31:16,17;148:6; 340:20;422:14	pixels (60) 80:22;81:1,4,14; 83:12,17;84:2,12,16; 85:5,6,9,10,14;86:11, 12,13;104:7;105:18; 106:18;107:2,16; 108:10;109:15,15; 115:17,19;116:17,17; 117:11;180:2;257:22; 259:2;285:19;300:6; 303:20;304:20;307:5, 16;310:2;322:14; 328:16;329:18,19;	play (27) 32:15,18;113:12,13; 130:11;132:1,4,5; 167:15;169:6;177:5; 178:8,11;230:1; 288:11;294:11,22; 297:1,8,16;298:1; 299:3,22;305:14; 314:22;315:1;335:16
	period (21) 10:17,22;11:2;40:20; 60:15;74:2;168:4; 250:11,12;278:19; 280:7;315:10;343:10; 344:17;345:6;371:18; 375:12,13;394:12,13; 404:8	photography (6) 15:13;17:15;32:18; 33:15;82:7;86:8		playback (2) 303:14;304:10
	periods (11) 169:11;315:11; 320:3;337:15,15; 359:18;376:3;400:1; 401:1;403:22;412:21	photos (4) 147:6;173:18,19; 267:16		played (2) 285:2;310:12
	person (50) 87:4;127:18;186:15; 268:16;274:17;329:5;	Photoshop (33) 15:18,20;31:14,21; 33:15,22;34:1;49:19; 101:16,18,21,22,22; 102:2,14;103:3,10; 105:5;109:1;115:4;		player (8)

<p>158:13,16;178:7; 190:15;193:7,8; 220:15;366:2</p> <p><b>players (4)</b> 55:3,3,4,7</p> <p><b>playing (3)</b> 113:10;132:16;154:8</p> <p><b>plays (1)</b> 418:21</p> <p><b>Please (12)</b> 4:19;10:11;205:1; 256:15;258:6,16; 272:6;294:12;318:19; 389:5,8,18</p> <p><b>pleasure (2)</b> 4:21;421:7</p> <p><b>plug-in (1)</b> 16:1</p> <p><b>Plus (3)</b> 54:6;238:15,19</p> <p><b>pm (7)</b> 211:13,13;313:9,9; 393:21,21;422:10</p> <p><b>PMP (1)</b> 98:17</p> <p><b>PNG (2)</b> 90:4;91:3</p> <p><b>point (76)</b> 11:9,13;19:6;26:12; 27:16;28:20;29:18; 35:1;36:12;65:2;66:17; 18,20;79:10;99:13; 108:9;109:19,20; 129:19;131:1;142:15; 143:20;150:1;153:5,7; 163:7;166:1;194:10; 195:3,21;207:16; 219:10;221:10;232:8; 11;233:3;242:15; 244:8,9;249:15;250:8; 16;254:20;264:13; 266:17;274:20;318:8; 10;319:13,16;321:2; 12;322:3,22;328:21; 330:10,11,14;331:1; 334:2;335:14;340:6; 341:21;343:17;363:7; 365:12;369:6;405:10; 409:15;410:6;412:8; 10,11;415:19;417:20; 421:15</p> <p><b>pointed (8)</b> 143:22;145:2; 274:10;326:9;327:7; 335:22;372:1;381:8</p> <p><b>pointing (2)</b> 338:16;362:17</p> <p><b>points (6)</b> 67:13;209:3,5; 218:13;241:3,5</p> <p><b>police (3)</b> 33:13;61:2;173:3</p> <p><b>pop (1)</b></p>	<p>226:20</p> <p><b>popcorn (2)</b> 188:9,19</p> <p><b>pornography (1)</b> 76:21</p> <p><b>portion (24)</b> 10:1;23:18;59:21; 67:5;77:9;100:4; 169:13,15;205:13; 245:18;249:13;257:11; 297:2,10,18;298:3; 299:5;300:2;326:13; 333:18;350:3;354:22; 367:20;398:19</p> <p><b>portions (7)</b> 99:9;171:12;182:1,6; 210:14;309:1,18</p> <p><b>portray (2)</b> 289:13,16</p> <p><b>portrayal (1)</b> 288:19</p> <p><b>portrayed (3)</b> 286:20,22;287:3</p> <p><b>position (40)</b> 10:2;22:3;41:6,7,10, 11,11;45:15;46:22; 48:5;58:19;83:22; 122:13;209:13;243:2; 318:14;335:11,17; 336:18,21;337:7,8,13; 340:10;341:20;347:21; 349:21;350:6;351:10; 352:2;359:7;361:12; 374:10;375:17;378:17; 19;400:6;408:4,4,5</p> <p><b>positioned (1)</b> 231:5</p> <p><b>positions (4)</b> 56:8,11;380:16; 382:1</p> <p><b>possibilities (1)</b> 399:9</p> <p><b>possibility (8)</b> 33:20;77:15;233:21; 380:19;397:10;399:15; 405:7,22</p> <p><b>possible (10)</b> 92:19;93:5;94:20; 95:1,4;104:9,13,15,17; 365:4</p> <p><b>possibly (10)</b> 53:9;78:16,21;96:15; 200:8;239:21;337:13; 349:2;399:4,12</p> <p><b>post (2)</b> 44:8;62:7</p> <p><b>postage (1)</b> 332:14</p> <p><b>post-March (1)</b> 21:18</p> <p><b>posture (2)</b> 346:6;364:22</p> <p><b>potentially (1)</b></p>	<p>406:21</p> <p><b>pouting (2)</b> 267:5,7</p> <p><b>powered (1)</b> 295:19</p> <p><b>practice (1)</b> 200:17</p> <p><b>practices (3)</b> 77:5;135:16;198:12</p> <p><b>pre (1)</b> 44:8</p> <p><b>precedes (1)</b> 342:22</p> <p><b>predicate (1)</b> 136:13</p> <p><b>predominately (1)</b> 118:20</p> <p><b>preference (2)</b> 118:21;119:11</p> <p><b>Premiere (10)</b> 16:1,2;33:16;34:1; 49:19;103:13,14; 207:9;208:5,7</p> <p><b>prepared (6)</b> 210:20;234:18,19; 255:13,15;256:5</p> <p><b>prepped (1)</b> 227:4</p> <p><b>prerogative (1)</b> 241:19</p> <p><b>present (1)</b> 53:12</p> <p><b>presentation (1)</b> 136:3</p> <p><b>presentations (1)</b> 133:15</p> <p><b>presented (2)</b> 133:21;233:6</p> <p><b>preserve (6)</b> 214:16,18,19;215:1, 4,12</p> <p><b>press (1)</b> 270:14</p> <p><b>pretty (11)</b> 13:8;61:11;65:14; 66:1;101:12;106:9; 195:8;205:19;252:21; 389:4;395:4</p> <p><b>prevent (1)</b> 130:9</p> <p><b>previous (7)</b> 166:20;264:12; 265:16;276:21;359:20; 420:18,20</p> <p><b>previously (1)</b> 283:16</p> <p><b>primarily (4)</b> 72:16;102:3;104:19; 125:11</p> <p><b>primary (3)</b> 72:21;103:13,21</p> <p><b>print (2)</b> 114:9;366:18</p>	<p><b>printouts (2)</b> 255:8,12</p> <p><b>prior (9)</b> 59:7,8;131:9;152:2, 17;167:17;337:5; 412:22;419:15</p> <p><b>private (8)</b> 35:22;39:14,17;41:4, 5;42:11;44:2;46:6</p> <p><b>Pro (5)</b> 43:21;44:3,17;49:19; 101:22</p> <p><b>probably (20)</b> 5:6;16:21;17:2,2; 26:21;36:16;43:7; 44:10,17;56:12;60:11; 105:2;122:21;124:7; 129:18;147:5;241:7; 268:20;293:20;343:16</p> <p><b>problem (9)</b> 117:21,22;123:8; 163:6,13;168:20; 177:10;207:17;412:17</p> <p><b>problems (5)</b> 97:12;113:2;163:3,9; 207:21</p> <p><b>procedure (7)</b> 88:20;91:12;134:17; 165:4;197:3;198:6; 254:10</p> <p><b>procedures (11)</b> 50:12,15;65:21; 69:22;70:10;90:16; 198:11;279:20;280:1, 2;326:8</p> <p><b>proceeding (1)</b> 5:7</p> <p><b>process (115)</b> 6:22;10:19;48:8,9, 10,19,19;49:11;50:13; 53:9;54:10,18;80:11; 81:3;82:14;83:13; 87:14;90:18;93:16; 94:5;97:9,10;100:22; 101:1;104:16;105:2; 110:21;112:3;114:5, 16;115:3,13,20,21; 116:4,12,13,21;117:10, 11;118:9,15;121:1,2, 20;124:20;125:4,12, 13;127:8,9,11,14,20; 128:3;130:14;136:18; 138:2;139:13;141:3; 145:15,19;151:8; 152:7,17;153:17; 154:7,22;156:8;159:5; 161:3,4,16;163:18; 176:12;179:1;181:7; 182:19;189:12,13; 193:12;194:22;195:1; 197:12;198:19;199:12, 20;211:6;220:20; 233:3;237:6;246:3;</p>	<p>248:16;250:21;252:2; 273:3;274:9;288:22; 289:3,4,8;295:14; 296:1;298:16;299:15; 302:5;303:1;310:3; 366:8;383:18,21; 384:1,9;387:1;402:16</p> <p><b>processed (19)</b> 51:16;119:17; 146:10,12;170:19; 189:7;194:1;196:2; 230:22,22;236:2,2; 249:15,19;275:20; 276:9;301:9;366:2,6</p> <p><b>processes (9)</b> 49:16;82:3,5,11; 92:7,14;95:18;116:2; 118:7</p> <p><b>processing (21)</b> 50:13;67:7;70:17; 89:15;94:15;95:19; 99:17,18,20;103:7; 119:7;126:17;131:3; 163:7;177:10;190:4; 265:22;273:15;296:5; 301:3;303:3</p> <p><b>Proctor (1)</b> 140:14</p> <p><b>produce (6)</b> 161:10,20;303:1; 349:1;360:4;366:19</p> <p><b>produced (44)</b> 136:2;137:20; 145:17;146:2;148:8, 15,18,20,21;149:13,20, 21;152:1,5;154:17; 189:9;215:20;245:18, 19;251:12;280:16; 281:11;282:10;283:2, 3,6,8;284:9;288:9; 291:17;316:11;327:9; 338:5;348:11,14; 349:15;351:5;370:14; 375:3;376:17,19; 387:21;393:9;399:3</p> <p><b>producing (9)</b> 319:10;327:14; 328:21;352:17;374:13; 396:15;406:5;408:11; 409:6</p> <p><b>product (6)</b> 64:14;102:16; 111:18;207:11;211:10; 357:17</p> <p><b>production (1)</b> 302:2</p> <p><b>productions (1)</b> 349:3</p> <p><b>products (2)</b> 64:20;208:20</p> <p><b>profession (1)</b> 79:18</p> <p><b>Professional (18)</b></p>
--	--	---	---	---

4:3;24:9;45:8,22; 52:17;55:3;62:6,12,13; 103:15;112:2;198:12; 292:4,12;398:9;414:7, 8,10 <b>program (16)</b> 15:13;21:8;38:7; 49:15,15;57:4;58:13; 60:22;64:21;65:4;72:1; 89:17;94:11;100:19; 103:15;207:4 <b>programmed (1)</b> 168:19 <b>programs (7)</b> 23:15;54:8;59:7; 64:10;85:13;92:9; 214:2 <b>progressive (4)</b> 284:4;303:7;304:2; 309:13 <b>project (28)</b> 284:3,3,17,19;285:6, 11,14;290:8,10,11; 303:6;304:2;305:1,21, 22;306:8,10,21;307:7, 8,19,20;308:6,7,19; 311:13,14,15 <b>projection (17)</b> 61:16;69:10;72:7,10; 75:8;80:5;134:6,8; 335:7,7;336:9,12,14; 340:5;348:11;350:21; 351:1 <b>promise (1)</b> 314:14 <b>proper (2)</b> 197:11;198:5 <b>properties (2)</b> 90:8,20 <b>proprietary (2)</b> 200:10;213:4 <b>proprietary (72)</b> 67:15;77:18;83:5,10; 93:17;94:7,8,12,17,21; 95:22;96:4,5,14;98:8, 8;100:5,9,11,15,19,21; 101:3,7;112:15,16; 153:21,22;154:3,21; 158:13,14,16;167:2; 168:18;169:20;172:9; 175:22;181:12;182:11, 13;183:20,21;189:5; 190:8,15,18,20,21; 192:13,19;193:4,7,7; 194:4;196:20,21; 200:3,15;201:1,7; 206:2,11,12,19,20; 213:3,3;220:10,15; 236:3;366:1 <b>prosecution (11)</b> 65:9;130:8;139:7,21; 149:15;150:14,19,22; 164:7;241:17;251:16	<b>prosecutor (10)</b> 131:12;147:18; 149:6,9;164:15; 208:21;250:17;313:18; 347:17;367:5 <b>protecting (1)</b> 20:7 <b>Protection (3)</b> 34:13,18;35:17 <b>prove (6)</b> 344:3;400:14,15; 401:7,8;419:9 <b>proven (2)</b> 238:3;261:3 <b>provide (5)</b> 39:22;40:4;134:17; 208:6;245:4 <b>provided (4)</b> 163:1;246:13; 310:18;364:14 <b>provider (1)</b> 39:11 <b>PT (5)</b> 57:7;70:19,22;71:15, 17 <b>Public (5)</b> 4:4;26:7;409:17,19, 22 <b>publish (2)</b> 55:12,13 <b>published (5)</b> 55:14;79:10,14; 315:18;334:5 <b>pull (4)</b> 141:14;228:9; 353:21;404:9 <b>purchased (1)</b> 33:9 <b>purchasing (3)</b> 63:2;188:7,8 <b>pure (12)</b> 320:13,13;321:8,8,9, 9,10,11,15,15;322:17, 18 <b>purported (1)</b> 185:7 <b>purportedly (1)</b> 148:10 <b>purpose (13)</b> 27:6;91:10,11;103:5; 274:19;347:15;358:16; 359:5;360:5;361:5; 363:5;394:8,10 <b>purposes (7)</b> 48:20;229:14;240:1; 302:8;349:18;350:1,2 <b>purse (1)</b> 399:21 <b>pursuant (1)</b> 4:5 <b>pushed (2)</b> 151:3;281:16 <b>put (36)</b>	18:13;62:22;68:2,10; 69:17;73:4,9,13,13; 121:11,12;123:17; 125:3;127:8;133:9; 150:7;193:9;209:12; 212:12;225:7;227:1; 252:16;255:4,5,14; 256:2;267:4;293:21; 294:3;296:4;313:19; 330:20;331:12;332:2; 336:20;407:18 <b>puts (4)</b> 30:19;66:11,13;70:8 <b>putting (6)</b> 67:15;73:17,18; 99:12;267:17;299:15  <b>Q</b>  <b>Q1 (1)</b> 323:17 <b>Qatar (1)</b> 34:17 <b>qualification (1)</b> 48:16 <b>qualifications (2)</b> 6:21;48:10 <b>qualified (2)</b> 48:17;411:8 <b>qualifies (1)</b> 398:9 <b>qualify (1)</b> 6:2 <b>qualifying (1)</b> 197:11 <b>Quality (11)</b> 50:5;119:16;120:7; 130:11;132:1,4; 215:18;310:5;391:7, 17,18 <b>quick (5)</b> 89:5,6;123:6;237:18; 365:16 <b>quickly (3)</b> 174:5;271:22;275:2 <b>quite (5)</b> 8:1;17:8;22:19; 111:10;238:2 <b>quo (2)</b> 90:8,9 <b>quote (2)</b> 176:20;392:4 <b>quotes (1)</b> 171:19  <b>R</b>  <b>RAF (11)</b> 11:17,19;12:9,13; 24:21;25:4,21;26:1; 27:4,9,10 <b>raised (1)</b> 28:6	<b>ran (5)</b> 25:4;37:1;39:11; 59:7;162:3 <b>Randolph (6)</b> 33:1,2;34:16;35:6; 36:13,19 <b>random (2)</b> 360:13;361:3 <b>range (2)</b> 290:16;381:21 <b>ranged (1)</b> 381:16 <b>rank (2)</b> 37:9,11 <b>rarely (1)</b> 214:3 <b>rate (7)</b> 73:19;132:13; 177:14,17;290:17; 318:7;329:9 <b>rather (1)</b> 227:18 <b>ratio (2)</b> 330:5,5 <b>raw (11)</b> 93:22;184:19; 245:22;246:6,9;264:3; 267:3;273:10;275:12; 331:7,7 <b>reaccomplished (1)</b> 199:20 <b>reaches (1)</b> 419:4 <b>reacting (1)</b> 288:17 <b>read (26)</b> 18:15;50:22;55:11; 78:12,14,18,22;79:6, 13;103:1;129:12,15,16, 17,18,21;130:22; 175:19;183:8;294:16; 390:5;421:9,10,12,17; 422:7 <b>readable (1)</b> 421:19 <b>reading (8)</b> 22:17,20;100:16; 316:1;367:3;421:11, 13,18 <b>ready (2)</b> 256:4;313:15 <b>real (7)</b> 130:11;132:1,4,6; 150:1;237:18;275:2 <b>realize (10)</b> 53:4;113:13;116:5; 139:9;170:8;209:15; 224:7;237:8;352:18; 353:5 <b>realized (1)</b> 137:13 <b>really (34)</b> 29:21;48:11;58:19;	62:7;91:10;92:4,12; 103:18;112:14;115:3; 118:5;120:6,9;121:4, 19;122:16;124:18; 125:2;149:21;161:12; 164:2;179:9;193:22; 211:9;217:12;250:10; 254:7;281:2;315:7; 319:18;328:16;343:4; 347:12;349:5 <b>realtime (11)</b> 132:7;169:3;177:20; 178:1,4;181:17;182:5; 192:16;194:3;308:17; 309:12 <b>reason (13)</b> 5:5;180:18,22; 194:14;200:2,11; 234:2;356:11;374:12; 375:10;390:1;395:12; 421:20 <b>rebuild (3)</b> 167:4,5;190:16 <b>rebuilding (1)</b> 167:7 <b>rebuilt (2)</b> 167:13,13 <b>recall (11)</b> 78:8,16;142:2; 215:11;243:4;254:9; 276:6;313:18;323:11; 342:1;347:16 <b>receipt (1)</b> 134:14 <b>receive (8)</b> 87:22;88:6;89:19; 92:5,21;150:18;157:6; 196:1 <b>received (37)</b> 13:12;53:6;92:13; 93:2,4;129:3;131:2,9; 141:11;148:13,17; 149:9;150:19,20; 151:9,20;152:4,8,8; 153:20;158:1;163:11; 166:22;170:7,19,19; 190:19;191:1;193:17; 196:1;200:8;208:20; 224:10;281:14;312:14, 18;386:9 <b>receiving (3)</b> 19:2;94:6;191:8 <b>recent (1)</b> 13:11 <b>recessed (4)</b> 123:10;211:12; 313:8;393:20 <b>recheck (1)</b> 128:2 <b>recipe (2)</b> 270:20,21 <b>recognition (1)</b> 61:15
--	--	--	---	---

<b>recognize (1)</b> 215:8	182:16;183:10;242:9	<b>refuse (1)</b> 390:2	415:9,11,13,19;416:14	323:7,13,15,16;324:13;
<b>recollection (1)</b> 150:3	<b>recreating (1)</b> 337:13	<b>refusing (1)</b> 256:5	<b>remind (1)</b> 140:21	325:17;326:6;336:8;
<b>reconstruct (1)</b> 302:21	<b>recruit (1)</b> 27:22	<b>regarding (1)</b> 327:19	<b>remotely (1)</b> 165:2	362:15
<b>reconstruction (2)</b> 72:14,15	<b>recruited (2)</b> 27:17;28:17	<b>regardless (2)</b> 52:11;389:11	<b>removed (5)</b> 165:7,9;218:20,22;	<b>requested (12)</b> 73:2;133:22;134:4;
<b>record (34)</b> 4:19;88:21;95:3;	<b>rectangle (2)</b> 354:11,11	<b>regards (1)</b> 366:7	380:2	140:4,8;146:12;161:7;
114:10;132:10;177:17;	<b>Red (8)</b> 26:12;87:2;164:3;	<b>Regional (4)</b> 24:13;25:14;28:1;	<b>render (1)</b> 222:4	162:16;252:6;323:10;
178:11;179:19;180:4;	339:5;340:15;364:17;	29:6	<b>renders (1)</b> 221:21	334:14;360:1
7:199:13,18;219:19;	368:12;372:1	<b>Registered (1)</b> 4:3	<b>repair (4)</b> 12:8;167:12;168:6;	<b>requesting (2)</b> 139:22;160:6
220:1,1;233:14;240:2;	<b>redefine (1)</b> 170:5	<b>regular (3)</b> 73:19;102:12;226:6	11	<b>required (1)</b> 121:17
252:17;255:3;256:2;	<b>redefined (1)</b> 199:20	<b>rehash (1)</b> 128:5	<b>repeat (1)</b> 34:1	<b>requirement (1)</b> 19:9
267:15;282:4;293:21;	<b>redefines (1)</b> 168:11	<b>Reid (1)</b> 15:6	<b>repeated (1)</b> 33:22	<b>requirements (4)</b> 46:4;57:9,9;161:19
336:2;349:18;350:2;	<b>redo (3)</b> 64:8;221:11,12	<b>related (8)</b> 405:22;419:17,18,	<b>rephrase (1)</b> 5:8	<b>requires (1)</b> 318:15
371:5,7;383:8;387:8,	<b>reduce (1)</b> 216:19	19,20,22;420:2,3	<b>replicate (1)</b> 115:19	<b>research (11)</b> 22:18;34:13;35:11,
14;392:7;397:4,18	<b>reduced (2)</b> 154:10;305:14	<b>relative (23)</b> 319:15;320:4;	<b>report (38)</b> 66:22;134:14;	12,14,16;55:8,9,18;
<b>recordable (1)</b> 278:18	<b>Reeves (20)</b> 130:2;145:6,7;	340:10,10;341:20;	146:19,20;147:9;	126:12;321:18
<b>recorded (77)</b> 65:7;73:20;76:17,19;	185:16;186:22;187:3,	342:2,12,19;343:17;	151:4,12;156:12,13;	<b>resemble (1)</b> 106:18
91:6;95:2;158:14;	18;209:18,20;339:9;	345:11;347:21,22;	157:2;161:3;184:20;	<b>Reserve (1)</b> 29:4
162:20;166:2,19;	376:10;381:15,20;	349:10;350:17;362:9;	201:13,17;210:6;	<b>resize (7)</b> 114:8;121:14,16;
176:16;178:8,12,14,15;	402:7;403:20;404:21;	363:7;365:3,8;367:21;	220:4;243:16;302:17;	290:21;297:1;298:2;
180:19,19;181:17,19,	408:13;413:12,19,22	371:19;394:22;400:5;	313:1;314:15;316:2,	308:5
21,22;182:7,18;184:1;	<b>Reeves' (2)</b> 377:4;380:11	407:16	10;317:7,9,17;318:1;	<b>resized (37)</b> 210:12;283:21;
205:4,13,15;217:14,20,	<b>refer (2)</b> 10:10;290:11	<b>relatively (4)</b> 124:12;215:14,21;	323:5;333:18;365:21;	284:22;294:10,21;
22;219:5,6,12,15;	<b>reference (7)</b> 6:20;143:16;168:14;	365:16	366:7;376:2,3;396:8,	295:1;296:22;297:7,9,
220:10;222:21,22;	266:12;311:21;365:12;	<b>relativity (1)</b> 320:18	13;402:4;412:22;	15,17,22;299:2,4,21;
223:2,9,10,13,16,16;	405:11	<b>relay (1)</b> 300:16	413:5,20	300:1;303:11,22;
224:5,8,10;231:8;	<b>referred (2)</b> 316:2;318:5	<b>release (1)</b> 208:20	<b>Reporter (12)</b> 4:4;39:6,8;258:2,5;	304:7,15,17,22;305:12,
238:2;239:7;249:15,	<b>referring (1)</b> 10:11	<b>released (2)</b> 38:2;102:4	282:8;285:8;318:20;	13,21;306:7,9,14,21;
16,17;250:5,22;278:16,	<b>reflected (3)</b> 24:5;271:6;408:13	<b>relevant (3)</b> 131:22;133:2;149:12	344:10;371:3;390:5;	307:6,8,13,19;308:7,
16;283:4;285:2;	<b>reflecting (2)</b> 328:20;397:14	<b>reliability (4)</b> 136:19;137:2,6;	421:8	12;333:4;340:15
303:14,16;304:10,11;	<b>reflection (23)</b> 242:20;243:6,11,12;	183:5	<b>reports (2)</b> 141:13;301:22	<b>resizing (2)</b> 189:18;214:12
305:8;308:22;309:2,	297:2,10,18;298:3;	<b>relieve (1)</b> 166:13	76:15;79:17;162:19;	<b>resolution (18)</b> 84:6,8;85:2;90:5,6,
17,20,21;310:19;	299:5;300:2;302:16;	<b>relink (1)</b> 167:10	223:2,11,12,15	21,22;215:13;216:4,7,
313:20;328:12;374:18;	381:15,19;396:16,18,	<b>rely (1)</b> 85:8	<b>representations (1)</b> 224:5	20;217:4;220:1;328:6;
375:6,9;378:13;380:5;	20;397:6;398:5;	<b>relying (2)</b> 82:21;112:17	<b>reprocess (1)</b> 324:11	341:4,13;377:9;382:3
419:8	399:19,20;400:13;	<b>remember (20)</b> 51:5;79:15;140:10,	<b>reproduce (1)</b> 356:4	<b>responsibility (1)</b> 155:8
<b>recorders (1)</b> 204:22	413:12,21	21;141:1;142:1;	<b>reproduction (1)</b> 336:22	<b>resubmit (1)</b> 324:4
<b>recording (41)</b> 76:16;86:15;95:18;	<b>reflective (4)</b> 294:1,2;295:17;	143:13;146:7,9;	<b>reputation (1)</b> 126:4	<b>resubmitted (1)</b> 324:8
132:9,13;176:13,15,16;	296:7	228:13,14;255:22;	<b>request (31)</b> 70:5,6,8;91:21;	<b>results (3)</b> 184:21;208:15;283:3
179:1,6,12,17,18,20;	<b>reflectivity (1)</b> 372:20	256:1;264:5;374:21;	92:19;133:4;137:10;	<b>resumed (4)</b> 123:11;211:13;
180:7;181:9,11,13,14,	<b>reflects (5)</b> 295:2,4,6,8,12		141:21;159:15,19;	313:9;393:21
15;182:2;210:15;			160:4;231:17;251:5;	<b>retag (1)</b> 324:3
218:3;219:7;220:17;			283:5,13;293:6,7;	<b>retire (3)</b> 37:13,21;38:18
238:6;239:6;249:9;			314:4,19;317:8,10,11;	<b>retired (2)</b>
284:13;290:17,17;				
336:19,22;417:14,20;				
418:1;420:16,18,21;				
422:3,5				
<b>recordings (4)</b> 194:20;223:17,18;				
380:4				
<b>recording's (1)</b> 180:20				
<b>records (6)</b> 178:12;179:8,15;				

<p>37:7,22 retirements (1) 60:14 returns (3) 297:13,19;368:9 reverse (18) 61:16;69:9;72:7,9, 10;80:5;134:5,8; 288:15;335:6,7;336:9, 12,14;340:5;348:10; 350:20,22 reverses (1) 287:10 reversing (1) 317:13 review (33) 91:8,19,19,22;92:2,6, 15;93:4,8,12,14,15; 127:19;144:20,22; 149:16;157:4;161:17; 197:7,10,12,13,14,15, 18;211:18;212:17; 264:6;269:17;275:4; 299:14;323:17;334:13 Reviewed (21) 147:21;149:19; 159:6;169:21;177:5, 21;185:2;190:8,10; 193:2,2;196:16;201:6; 246:5;247:4;248:17; 271:2;286:2;310:15; 312:5,7 reviewing (10) 14:5;92:17;143:19; 144:7;163:8,14; 212:19;242:6;275:9; 411:12 revitalize (1) 167:3 reworded (1) 223:19 Richard (3) 252:11;295:9,9 Rick (19) 5:8;6:8,11;18:5;49:1, 3;54:7;94:20;107:13; 139:18;146:8;160:18; 162:5;186:17;242:14; 251:1;263:14;349:18; 415:3 right (181) 9:3,20;16:7;17:12, 20;19:11;27:5;28:6; 30:19;38:16;40:4; 47:22;49:9;53:4;54:13; 60:11;61:11;79:15,21; 82:2;85:5,6;91:11; 94:1;97:8;101:14; 102:3;104:13;105:3, 20;106:13;107:15; 115:5;116:6;117:4,6; 118:4;124:1,5;130:8; 135:2;136:3;142:6,9;</p>	<p>143:14;159:1;161:22; 162:13;166:14;170:10; 171:15,20;172:1; 175:11,12;191:3; 199:18;201:14;203:10; 204:13,18;209:3,16; 217:19;225:3;228:6, 17;229:15,20;230:3; 231:7;232:3;233:11, 20;235:20;236:6,19; 237:3;240:4,7;242:2; 246:14;247:3,10,10; 248:20;255:8;256:15; 262:5;264:2,18; 270:20;277:9;280:5; 281:15;282:7,13; 284:7,7,8;293:8;295:2; 299:8,19;314:15,17; 315:19;317:12,16; 318:19;319:3;325:11; 329:11;330:8,21; 331:20,22;332:6; 333:2;334:17,19,21; 338:15;339:5;341:9; 343:2;344:22;345:19; 346:14;348:1,18; 353:17,18,20;354:8,20; 355:16;356:6,7; 357:21;361:16,21; 364:7,15,21;365:10; 368:5,6;369:4;371:16; 372:18;375:1;379:14; 380:2;381:9;383:13; 385:16;389:10;392:5, 8,13;393:12;394:16; 395:5;400:22;405:19; 410:19;412:1,5; 413:10,20;416:20,20; 417:5,10,14,22;419:14; 421:10,12,17 right-hand (5) 262:7;280:18;341:9; 366:14;367:19 Road (1) 4:8 robberies (1) 337:4 robbery (3) 59:14,14;345:19 rocks (1) 74:16 roll (1) 272:1 room (3) 219:18;364:10; 368:10 round (16) 240:14;244:13; 245:9,15;247:5; 259:16;260:3;261:6; 262:10;264:8,12; 265:3;271:13,14; 280:15;291:15</p>	<p>Routine (1) 154:18 Routinely (1) 154:12 Row (19) 145:8;228:3,3,6; 229:10,11,13,14,15,20; 230:5;233:16;235:12; 247:11;249:13;251:9; 260:20;262:11;342:6 rule (3) 5:2;134:19;255:2 rules (9) 5:1;134:17;253:18, 21;254:1,6,9,11;255:1 run (11) 14:13;33:11;38:19; 40:11,12;88:5,9;89:14; 159:5;207:15;309:15 running (3) 59:6;268:19;363:2 Russell (1) 4:20  S  safe (1) 279:15 Safety (1) 13:9 same (151) 21:5,7;25:8;31:1; 32:12;33:5,6;52:9; 60:9;69:17;89:2,3; 91:9;96:20;112:21; 113:4;115:9;136:10; 155:13;157:16;158:7; 178:16,18;188:6; 193:18,21;196:20; 197:1;200:19;212:9, 11;221:1,18;222:15; 224:11;225:2,9; 233:14;234:14;235:22; 236:1;240:14;245:8; 249:20;258:18;260:20; 263:21;266:11;268:17; 22;269:6,14,16;271:9; 272:2;275:5;276:9,10, 12,21;279:11,13,15,17; 280:1,7,8;286:16,19, 20;289:2,18;299:9; 302:21,22,22;303:1; 305:1,20;306:6,8; 307:7,19;308:6,19; 309:5,18;312:6;324:4; 326:20;341:1,12,20; 342:19,19;345:6,6,8; 357:13;358:19;360:17; 361:20;362:1,6,8,19; 363:20;365:3;366:11, 12,16;369:2;370:9,15; 371:1,2;372:2,14; 374:6;375:1,4,15;</p>	<p>378:5,6,11,12;379:16, 22;380:1,3,4,13; 394:21,22;396:3; 400:6,6;408:3,19; 412:3,10,14,14;414:6; 415:12;418:13,14; 419:2,4,13;420:18 San (9) 32:22;33:12;34:11, 16,21,22;35:3,4,7 sat (2) 9:16;145:3 Satellite (4) 18:2;20:9;26:13,16 save (4) 114:10;205:22; 219:18;366:18 saved (4) 206:3;258:1;259:2; 280:13 saw (24) 73:11;144:3,13,15; 155:21;176:8;185:21; 187:17,22;209:11; 217:9;220:22;235:20; 247:21;248:17;264:12; 286:2;294:2;310:21, 22;316:2;365:5; 415:12;416:4 saying (67) 30:4;48:2,21;51:7; 52:2;70:3,3;72:20,20; 82:20;86:2;100:2; 128:15;144:1;148:16; 154:2;158:18;161:5, 12;162:4;164:15; 166:15;168:5;173:19; 181:2;184:21;186:17, 21;187:17;189:22; 194:10;203:8;218:21; 223:18;241:14;243:4; 251:15;288:16;291:18, 19;318:6;319:21; 326:10;329:22;344:1; 346:18;372:14;383:12, 14;395:18;396:18; 397:5,20;401:7; 402:10;403:9,21; 406:6;407:13,17,19; 408:12,14;409:6; 412:5;418:3,15 scale (2) 257:21;280:11 scaled (5) 284:16,18;285:6,11, 14 scenario (1) 411:18 scene (13) 17:15;23:22;72:13, 15;73:5;114:20; 163:10;164:9,17; 171:13;243:21,22;</p>	<p>336:22 scheme (3) 179:17,18;218:22 schemes (2) 123:2;182:18 school (7) 9:1,1,18;11:2,3,5,9 Science (17) 8:14;18:19;19:4,18; 21:6;57:3,10,11,13,16, 18,20,22;58:1,17;67:5; 318:15 scientific (38) 127:2;220:20; 224:14;296:1,13; 298:16;299:11;300:12; 301:16;302:15;315:9; 317:6;319:5,19;320:6, 9;321:12,13;328:4; 350:18;351:3;370:6; 383:18,21;384:1; 386:20;388:3,10,10; 390:16;396:10,11; 397:5;401:2;407:12; 411:21;412:8;420:3 scientifically (8) 382:5,15,17,21; 383:16;384:8;400:14; 409:5 scientist (2) 349:12;372:14 scope (1) 175:3 screen (11) 100:16,18;171:20; 174:3;179:11;182:7; 202:22;204:4,5; 304:11;405:6 screening (1) 303:15 scripts (1) 103:1 se (2) 48:11;234:4 search (1) 233:5 searching (1) 275:19 seat (5) 233:19;373:17,18; 375:7;404:19 seated (2) 362:13;379:18 seating (2) 210:11;235:13 seats (7) 145:8,9;229:3;260:3; 347:12;374:15,15 second (71) 22:7;48:3;49:21; 69:12,13;88:4;109:9; 129:10,11;132:8,14; 134:13;152:14;167:19;</p>
---	---	---	---	--

169:19;177:9,13; 178:2,9,9,10,13,13,14; 179:12;182:6;198:20; 205:22;214:4;218:17; 237:17;238:14,15,17, 19;239:2,3;247:19; 248:14;285:19;300:6; 303:7,20;304:3,19; 305:17,22,22;306:5,10, 10,17,22;307:5,9,15, 20;308:3,8,8,14;309:4, 14;310:1,3;379:2;383:9; 390:7;406:13,15,20	<b>selective (1)</b> 170:10 <b>self-taught (1)</b> 30:4 <b>self-training (1)</b> 29:19 <b>Sembach (2)</b> 30:22;31:1 <b>seminars (1)</b> 43:19 <b>send (5)</b> 68:11;114:10; 147:18;155:9;313:1 <b>sending (4)</b> 44:15;46:19;67:20; 130:14 <b>senior (2)</b> 13:7;58:17 <b>sense (4)</b> 68:4;180:2;218:5; 346:6 <b>sensor (1)</b> 130:6 <b>sent (10)</b> 10:14;52:4;133:3; 146:16;152:3;163:6; 313:11,14;317:15,18 <b>sentence (2)</b> 137:5;222:16 <b>separate (3)</b> 193:13;274:6;308:21 <b>separated (1)</b> 371:14 <b>separation (3)</b> 373:2;375:2,5 <b>September (4)</b> 31:10;32:22;63:16; 161:8 <b>sequence (3)</b> 181:10;278:2;284:22 <b>Sergeant (1)</b> 37:12 <b>series (2)</b> 221:7;269:20 <b>served (1)</b> 53:15 <b>Service (12)</b> 24:13;25:14;171:7, 16;188:11;189:1; 202:6;282:14;284:6; 285:7;297:13;323:13 <b>services (11)</b> 14:2;16:14;28:1; 29:6;31:14;33:2;36:12; 37:1;40:1;46:14; 124:22 <b>set (18)</b> 27:13;49:14;61:1,1; 94:13;147:21;150:16; 178:19;180:3,21; 213:15;216:17;283:2, 2;290:10;309:14; 312:17;349:8	<b>sets (1)</b> 30:17 <b>setting (1)</b> 218:20 <b>settings (7)</b> 217:19;290:8,11; 305:22;306:10;307:9, 20 <b>settled (1)</b> 124:6 <b>setup (2)</b> 157:3;180:10 <b>seven (2)</b> 282:5;371:7 <b>Seventeen (1)</b> 394:7 <b>several (39)</b> 34:4;40:22;43:1,12; 51:21;55:8;60:14,19; 61:12,14;67:13;68:13; 69:8;72:2;79:7;92:7,9; 133:14;137:4;157:20, 22;158:4,20;164:7; 181:15;183:8;192:15; 195:13;212:11;213:5; 221:6;242:7;278:9; 280:16;315:10;348:21; 378:13;398:21;420:5 <b>shade (11)</b> 118:2,2;119:20; 120:3,4;247:13;261:1, 11;328:18;329:6,7 <b>shades (16)</b> 106:5,6,7,15,17; 107:1,1,15;108:3,4; 115:12;117:9;262:22; 321:9,10;329:5 <b>shading (3)</b> 115:20;117:13;121:9 <b>shadow (1)</b> 258:9 <b>shadow/highlight (1)</b> 306:2 <b>shadow/highlights (1)</b> 300:3 <b>shadows (27)</b> 104:7;107:21;112:6; 257:20;258:10;259:7, 14,15;263:2;266:15; 269:17;271:21;272:14; 277:2;280:10;304:14; 305:11;307:11;308:21; 309:8,16,19;331:10; 373:11,12,15,16 <b>shadows/highlights (4)</b> 306:12;307:2,22; 308:10 <b>shakes (1)</b> 207:20 <b>shape (1)</b> 355:10 <b>sharpening (3)</b> 80:17;104:7;112:7	<b>sheet (1)</b> 422:1 <b>sheets (3)</b> 189:8;282:6,11 <b>Sheppard (1)</b> 11:16 <b>sheriff (2)</b> 163:7,13 <b>Sheriff's (2)</b> 165:13;195:20 <b>Shirt (1)</b> 53:1 <b>shoe (18)</b> 242:20;295:2,7,8,12; 297:3,10,18;298:3; 299:5;300:2;377:4,8; 380:16;399:19,20; 400:13;408:13 <b>shoes (10)</b> 376:12,16;380:11; 381:15,19;398:2,5,17; 413:12,21 <b>shooting (22)</b> 130:3,5;153:3; 159:17;160:13,14,15, 22;161:14,22;162:11; 185:7,10;187:4;209:6; 210:12;278:14,21; 279:4;299:19;304:21; 342:22 <b>shop (2)</b> 36:22;37:1 <b>short (4)</b> 143:19;162:2;335:3; 346:12 <b>short-term (1)</b> 122:9 <b>shot (8)</b> 139:13;142:17,22; 143:4;144:12;174:3; 279:6,7 <b>shotgun (5)</b> 73:10,11,12,13,14 <b>shotgun's (1)</b> 73:15 <b>shots (1)</b> 215:21 <b>shoulder (1)</b> 127:22 <b>show (17)</b> 108:10;120:21; 121:10;128:3;145:4; 147:1;212:15;274:21; 286:16;288:10;338:1; 360:8;371:19;382:19; 383:5,6;403:14 <b>showed (5)</b> 286:18,18;289:18; 291:3;410:18 <b>showing (6)</b> 199:22;287:4; 288:20;289:17;401:8; 410:15	<b>shown (5)</b> 254:10;255:8,10; 378:1;420:5 <b>shows (9)</b> 143:10;240:16; 272:13;284:13;286:19; 356:10;361:17;363:17; 416:16 <b>sic (27)</b> 11:15;77:17,20; 130:11;132:1;281:11; 283:1;297:5;327:14; 358:22;366:20;382:4; 384:2;386:21;388:4; 397:13;403:15;412:9, 11,12,20;413:8,8; 416:13;417:18;418:10, 17 <b>side (53)</b> 32:14;57:3,7;65:17; 67:1,2,3;68:13;69:7; 71:15;96:9;143:14,14; 171:15,20,22;172:1,1; 202:22;203:7,7;204:3, 6,7,13,17;261:4;284:6, 7,7,8,21,21;285:1,1,16, 16;286:4,4;303:12,13; 304:8,8;305:7,7; 309:15,15;337:20; 341:16;358:20,20; 369:4;397:11 <b>side-by-side (9)</b> 285:2;340:8;342:16; 351:1;352:3;358:17; 359:6,16;360:7 <b>sides (1)</b> 398:7 <b>sideways (1)</b> 385:19 <b>Signalscape (2)</b> 44:17;49:20 <b>significance (1)</b> 180:9 <b>significantly (1)</b> 345:14 <b>silhouette (30)</b> 239:19;240:1,13; 244:6,15;245:9,15; 247:15;251:3,8,18; 259:22;265:15,15; 335:19,21;336:3; 415:8,11;416:6,11,14; 417:12,16;418:6,7,8; 419:12,18;420:12 <b>silhouettes (2)</b> 271:15,17 <b>silly (1)</b> 381:5 <b>similar (13)</b> 74:21;234:9;319:22; 365:10;369:13;371:12; 381:17;382:1;394:12, 13;400:2;401:2;414:6
---	---	---	--	--



similarities (2) 320:5;362:10	308:9	5,6,10,11,16;135:14; 167:2,8,12,13,17,18, 22;168:3;175:18; 176:2;180:10;182:19, 21;191:19;192:13; 193:4;196:20,21; 197:11;206:9,10,17,18, 19,19,20;208:21,21; 310:8;322:8;352:6	26:8;33:17;55:4;76:21; 81:12;85:20;86:22; 91:3;92:10;96:12; 97:14;113:11;127:2, 21;128:1;154:14; 184:5;239:19;247:14; 259:22;266:22;319:19, 22;320:16;322:8; 323:11;324:22;335:14; 340:12,13;351:19; 360:12;361:18;374:2; 375:21;376:9;402:15; 404:20;407:12;409:3; 410:12;411:11	362:10
simple (16) 35:20;45:20;144:20, 21;210:8;253:16; 259:5;302:3,13,18; 322:2,20;323:2;327:1; 357:2;391:10	slash (1) 222:20	solder (2) 12:11,16	sorts (2) 47:11;142:21	specifically (16) 18:7,11;43:5;52:4; 61:4;78:19;200:15; 201:12;212:4;213:16; 241:12;366:7;377:5; 385:20;403:20;404:2
simpler (1) 396:22	slate (1) 337:2	soldering (1) 12:14	sound (1) 140:17	specifics (3) 78:9;295:16;326:5
simply (1) 79:12	slew (2) 44:7,18	solid (3) 212:16;219:2,3	sounds (3) 37:15;191:21;316:1	specs (2) 192:2,3
simulations (1) 35:13	sliced (1) 294:3	Solution (1) 39:21	Source (36) 44:4;55:15;81:6,6; 151:22;261:15,18,21; 265:5;315:8,9;320:3; 323:3;324:19;325:2; 329:17;342:2;359:14; 368:11,14,15;372:21; 376:5,21;381:11; 382:4,17;384:11,12,13, 13;396:9,12;397:8,12; 406:21	spectral (67) 231:18,20,21,22; 243:16,18,20;244:4,7, 8,12,16;245:7;251:2,6, 11,18,21;252:3,4; 265:14;271:15,17; 274:3;286:4;314:6,21; 315:16,20;316:8,9,22; 317:4,12,14,20,21; 318:3;327:14;329:21; 358:22;366:20;367:8, 10;368:16;370:18; 371:9;379:9;382:4; 384:2;386:21;388:4,5; 393:22;394:4;397:13; 398:14;403:15;404:6; 412:9,11,12,20;416:13; 417:18;418:10,17
single (16) 69:3;80:13;98:5,7; 212:13;221:3;250:1; 315:3;322:6;359:8; 360:10,16,18;404:3; 420:17;421:2	slow (8) 39:3;121:17;178:10; 285:8;286:9,11; 289:20;294:12	somebody (13) 82:21;232:14,16; 251:19;318:13,14; 319:2;325:22;341:16, 18;345:21;365:6,12	sources (1) 320:22	Specular (103) 315:19,20;316:3,7, 15,16,17;317:11,13,14, 21,22;318:4,9;319:6; 324:14,17,20;327:5,8, 11,16,18;330:1,3; 333:19;334:21;352:5; 354:16;358:13;367:2, 3,7;368:21;371:8; 373:10,11;374:10,17, 21,22;375:6,8,12,17; 376:2,22;377:1,4,20, 22;378:16;380:6; 381:1,11,17;384:5,9; 385:22;386:3,4,5,7,9; 387:22;388:5,11,12; 394:5,10;396:7,16,21; 397:3;398:15;399:5, 15;400:4,16;401:6,12, 16,18;402:15,20,21; 404:7,16;405:12,18; 406:3,5;407:2,15; 411:19;413:7,18; 414:17;416:12;419:14, 19;420:5,15
singular (7) 69:4;294:4;329:14; 352:11;355:1;375:11; 415:17	slowed (9) 287:9;294:10,22; 296:22;297:7,15,22; 299:2,22	somehow (4) 242:20;386:21; 405:15;411:9	south (4) 27:12;33:4;37:2; 73:3	S-p-e-c-u-l-a-r (1) 316:5
SiraView (1) 207:4	Slowing (1) 290:13	someone (14) 86:12;127:9;144:3,6; 163:22;164:1;165:11; 197:18;232:17;251:9; 298:17;316:19;419:2,3	southern (1) 27:9	speculating (1) 418:2
sit (8) 68:3;139:4,9;150:2; 316:21;318:8;349:14; 351:4	small (10) 87:12;107:8;215:14, 16;216:15;219:22; 247:5;287:4,5;333:9	someone's (1) 242:20	Southwest (2) 29:8;31:3	speed (15) 73:17,22;91:4;132:9, 13;178:10;294:11,22; 297:1,8,16;298:1; 299:3,22;305:14
site (1) 167:19	smaller (3) 311:5,6;361:15	something's (2) 144:8;154:9	space (4) 320:15;321:4;335:9; 343:10	
Sitting (31) 65:3;268:5;296:20; 334:15;335:5,10; 337:18;340:1,3,12; 342:10,12;343:6,11; 344:19;345:3,7,9; 347:9;348:6;349:11; 350:6;361:7;362:3,16; 363:17;364:5,13; 365:1;407:9;419:5	smarter (1) 316:19	Sometimes (10) 100:10;102:19; 120:22,22;174:1; 222:1,2,3,5,6	speak (5) 131:14;178:15; 376:16,16;418:4	
situation (4) 271:10;371:12; 410:12;411:2	smile (1) 267:5	somewhere (5) 94:15;106:12; 122:17;292:10;329:8	spec (1) 315:18	
situations (1) 335:10	Smith (1) 140:14	soon (2) 13:8;205:20	Special (16) 13:16,20,21;17:13, 19;27:21;41:11;45:7,9, 10,14;46:3;71:14; 161:6;162:15;323:7	
six (7) 9:22,22;34:17;79:1; 184:14;201:8;359:6	smooth (1) 332:17	SOP (4) 77:1,2;197:5,8	specialist (5) 11:10;24:18;122:6; 411:13;422:4	
Sixteen (2) 184:15,18	Smoother (7) 118:22;119:1,4,17; 258:1;259:2;280:13	SOPs (6) 50:12,17;51:3;198:8, 15,17	specialty (1) 414:9	
size (25) 109:8;114:9,17; 116:18;117:12;118:12; 120:5;216:15;257:22; 259:1;280:12,19; 284:17,19;285:6,11,14; 306:11,22;311:10; 332:5,13,20;355:10; 366:11	smoothes (1) 332:18	sorry (26) 37:10;38:15,17;49:4; 148:18,19;160:19; 197:21;226:8;258:3; 282:8;293:7;294:13; 314:10;318:4;329:21; 333:17;335:21;347:16; 364:2,3;372:10; 396:19,21;397:15; 403:12	specific (13) 16:1;17:22;103:4; 108:18;118:3;119:5; 200:11;210:14;320:6; 326:3;343:5;344:11;	
sized (5) 306:1;307:1,10,21;	smoothly (1) 167:15	sort (45) 14:7;18:3;25:12;		
	snacks (6) 171:18;188:19; 284:18;294:8,15,19			
	snapshot (2) 172:13;365:5			
	soccer (1) 26:8			
	software (80) 30:11;34:7;42:10,17; 43:22;44:4;48:18; 51:13;63:3,3,19,20,22; 64:1,2,2,11,13;82:6,18, 22;83:3;91:7,16;94:12, 17;95:3;96:8;98:9; 99:11,21;101:1,3; 103:2,9,19,20;109:14; 112:12,17,19;113:1,2,			



speeds (1) 290:17	211:5;220:4;250:6,7; 256:11;270:10;273:8; 282:10;294:13;371:19; 417:1;420:16	309:17;354:13;406:2, 2,9	207:3	10;264:18;267:12,15; 269:4;272:2;281:22; 328:14;366:10;392:6; 393:4;397:1;410:3; 412:3
spending (1) 154:14	started (34) 7:17;8:1,9,20,22; 17:10;23:7;24:17; 28:17;29:17,18;30:3; 31:20;32:14;33:11,14; 35:12;41:13;44:11,15; 45:6;49:13;53:12; 56:12;124:13;125:3; 131:3;145:15;146:17; 162:1;166:21;172:12; 190:5;194:11	station (6) 189:17;191:13,15, 16,17,21	stuff (8) 19:20;150:8;151:1; 188:9;250:20;260:5; 324:4;357:13	surface (2) 373:17,19
spent (6) 25:18,20;26:1,3; 28:20;167:20		stationed (1) 24:21	subject (37) 12:1;141:5;159:18; 171:8,10,17;185:13,14; 210:9;284:5,6,14,15, 17,19;285:5,6,12,15; 294:3,8,14,18;295:2; 296:20;297:2,4,10,13, 17,19;298:3,5;299:4,7, 18;300:2	surprised (1) 164:22
spies (2) 29:14;59:13		statistic (1) 375:13		surrounding (1) 354:15
split (1) 70:19		status (2) 90:8,9		surveillance (19) 14:4;17:14;20:10; 23:13;29:11;32:4,14; 37:3,4;41:1;43:10; 122:10;130:6;133:2,5; 136:15;146:1;216:3; 219:16
spoke (1) 327:18		stay (2) 50:14;270:16	submitted (5) 68:20;151:10; 161:10;198:21;323:18	sway (1) 326:17
spot (5) 315:6;318:11;328:2, 3;369:18	starting (2) 18:5;46:18	stayed (2) 122:9;378:11	subpoenaed (1) 131:14	switch (1) 277:12
spots (2) 319:22;372:15	starts (8) 130:1;161:5;180:7; 181:10;182:3;417:14, 19,22	step (10) 99:16;103:6,7;109:9; 163:18;208:16,16; 345:21;347:1;348:3	subsequently (2) 136:14;165:12	switching (1) 270:18
Springs (2) 12:21;26:2	state (33) 4:19;6:19;38:6,20; 39:11,18,19;40:1,11; 41:2;42:8;43:3;60:20; 122:8;130:2;134:15, 16;136:10,12;165:3; 210:21;219:21;220:6, 6;222:3;241:13;256:3; 396:14;400:12,15; 402:7;409:5;411:18	steps (1) 104:16	subtitle (1) 211:18	sworn (2) 4:11;45:21
square (4) 114:20;331:12; 354:12;367:21		stick (1) 321:20	subtitles (3) 207:3;212:17,20	symbol (5) 289:10;300:4; 304:17;306:3;307:3
stabilization (1) 104:1		sticker (1) 324:22	subtract (1) 248:3	symbols (10) 285:17;303:18; 305:15;306:15;307:14; 308:2,13;309:2,22; 322:13
stack (2) 266:2;270:7	stated (33) 67:17;107:18; 177:14;189:14;192:15; 210:6;221:5;222:18; 224:3;249:14;263:7; 265:4;292:6;312:2; 333:17;364:11;376:1, 3;377:19;378:10; 381:10,12;382:16; 396:8,13;398:18; 401:5;407:8;409:4; 410:17;412:21;416:10, 19	still (17) 35:7;42:7,20;68:21; 98:7;138:6;145:21; 146:22;247:15;260:2; 272:21;273:1;281:8; 342:1;365:18;370:8; 420:6	subtracting (1) 195:17	sync (2) 209:13;288:11
stamp (1) 332:14		stopped (1) 163:18	subtraction (1) 212:14	synced (4) 284:12,20;303:13; 304:9
stand (3) 188:9;202:18;271:8		stop (7) 5:7;49:21;100:3; 117:2;179:12;180:5; 417:4	sudden (1) 416:6	system (12) 27:8;33:10;89:9; 91:17;125:12;130:7; 190:16;219:7;220:17; 321:8;336:15,16
standard (17) 50:14;65:20;69:21; 70:9;73:12;88:20; 90:15;91:11;132:15, 18;165:4;182:16; 197:2,10,12;217:1; 326:8	statement (12) 132:2,21;223:14,20; 224:12;242:17;298:22; 334:4;382:6;393:8; 407:12,14	storage (8) 25:11;151:15; 155:10;156:18;158:7; 174:9;176:6;184:1	suggested (2) 159:12;232:17	systems (25) 12:8;14:4,4;15:17; 18:2;20:6,7,9;21:6; 25:9,10;26:6,7,9,13,13, 17;27:11;33:10;86:16; 87:3;132:19;216:3; 219:16;411:15
standing (46) 143:6;334:15;335:5, 10;337:18;339:22; 340:4,12;341:16; 342:3,6,9,12;343:5,11, 13;344:19;345:4,7,9, 21;347:8;349:11,19, 20;350:3,5,8,14;351:4, 8;352:1;361:7;362:4,8, 13,16;363:17;364:5,13, 21;365:1,7,13;379:18; 407:9	statements (2) 224:16;382:11	story (1) 161:21	super (1) 411:9	
standpoint (2) 127:4,5	States (9) 7:10,13;8:11;29:8,9; 33:4;37:2;44:16;68:9	stopped (1) 163:18	superintendent (3) 36:13,22;42:8	
stands (3) 219:10;275:20;393:8	State's (1) 133:4	strength (1) 263:1	supervisor (9) 12:2,6;13:9;38:21; 40:3,9,10;41:6;42:8	
Star (1) 51:12	stateside (1) 18:2	strict (1) 126:16	supervisors (3) 58:15,16,16	
start (32) 6:17;7:3;29:21; 34:21;38:9;59:9;67:8; 80:19;93:15,19;94:14; 95:6;104:2;121:22; 124:7;131:9;154:8; 167:3;179:11;184:21;	static (2) 374:5,8	strictly (6) 66:1;67:12;191:11; 193:11;302:14;325:14	supplied (1) 147:20	
	stating (10) 138:19;214:22; 303:15;304:11;308:22;	strong (1) 110:22	support (6) 45:8,22;46:1,1,3; 60:1	
		structure (1) 302:17	suppose (1) 147:20	
		structured (1)	sure (47) 5:13,13,20;6:3,7,10, 11;17:7,8;50:1,10; 53:22;62:9;89:9;122:1; 126:13;129:1;149:8; 156:11;164:4;193:16; 197:14;203:2;205:18; 211:16;212:20;225:1, 9;226:2;227:10; 237:19;239:17;243:3,	
				T
				tackle (1) 24:9
				tailored (1) 19:4
				talk (28) 22:6;39:9;42:9;62:1; 71:20;93:20;123:4; 153:8;158:5;161:2; 170:20,21;179:13;

189:11;12;204:21; 211:8;230:7;234:20; 289:9;321:18;328:22; 336:6;12;338:18; 367:4;379:7;409:20 <b>talked (15)</b> 54:3;112:3;155:15; 201:4;211:7;242:11; 244:4,5;252:20; 256:11;345:17;365:21; 403:17;414:3;415:9 <b>talking (63)</b> 56:14;82:16;95:21; 112:11;113:14;126:3; 129:9;146:22;168:21; 175:11;184:12;188:11; 211:5;215:6,6;216:16; 231:3;22;233:15; 234:22;235:11,11; 242:19;244:3;247:9; 248:8;252:21;253:1; 254:2;262:21;265:16; 290:16;323:22;328:17; 329:1,3;330:4,6,9; 335:19;338:13;353:1, 15;362:1;363:12; 373:15;378:21;379:2, 13,21;382:18;391:9; 393:6;398:11,16; 405:17;406:22;407:6; 415:22;416:11,12,13; 419:7 <b>tall (9)</b> 337:10;345:10,11, 12;346:12;347:10; 348:3,9,9 <b>taller (3)</b> 343:16;345:14; 346:15 <b>Tampa (1)</b> 161:6 <b>tampered (2)</b> 128:16,16 <b>tampering (1)</b> 136:17 <b>tangible (1)</b> 147:13 <b>tape (3)</b> 68:7;81:10;204:22 <b>taping (1)</b> 196:9 <b>target (2)</b> 346:21;364:5 <b>task (2)</b> 140:19;153:1 <b>tat (1)</b> 230:2 <b>taught (7)</b> 61:2,10,12,13,16; 384:9;388:2 <b>TDY (1)</b> 41:20 <b>teach (1)</b>	64:20 <b>tech (18)</b> 9:1,1,18;11:1,3,5; 14:3;16:14;27:17,19; 28:1,21;29:6;36:13,18, 20,20,21 <b>Technical (31)</b> 11:6,8,11,16;14:1; 17:14;24:13;25:14; 29:11;31:14;32:2;33:2; 36:12;37:1,4;41:1; 42:21,22;43:10;52:19, 20;53:10,11;54:7,8; 61:13;122:5,10;197:7, 13,18 <b>Technically (1)</b> 58:20 <b>technician (9)</b> 56:17;58:2;70:22; 71:10;126:14,16,18; 127:10;414:15 <b>technicians (6)</b> 56:19,20,21;57:6; 127:14,17 <b>technique (1)</b> 224:9 <b>techniques (4)</b> 12:15;19:20;99:11; 197:12 <b>technologist (11)</b> 47:4,5;56:19;57:1,8; 58:4,16,21;70:18; 71:18;127:6 <b>technologists (1)</b> 58:17 <b>Technology (2)</b> 21:6;58:22 <b>TEK (12)</b> 147:21;148:10; 149:5,20;150:15; 286:1,2,17;287:1,15, 19;289:10 <b>Telephone (1)</b> 15:17 <b>television (1)</b> 336:16 <b>telling (20)</b> 21:13;48:22;49:6; 51:1,19;54:6;70:9; 94:19;107:13;109:13; 127:22;146:8;209:16; 218:18;242:13;251:1; 263:14;319:20;384:8; 410:15 <b>temp (1)</b> 206:3 <b>ten (3)</b> 178:13;353:7;397:4 <b>tend (1)</b> 94:16 <b>tendency (1)</b> 5:18 <b>tenders (6)</b>	147:4;236:9;248:5,7; 256:17;378:1 <b>tension (1)</b> 39:4 <b>terabyte (1)</b> 185:2 <b>term (3)</b> 84:11;138:14;235:2 <b>terminology (1)</b> 338:20 <b>terms (22)</b> 36:21;47:6,7;194:16; 320:6,16;327:10,17; 328:13;329:21;331:19; 336:7;339:21;345:17; 350:18;368:11;370:4; 372:14;374:20;380:15; 396:9;398:13 <b>Terrorism (2)</b> 59:16;76:20 <b>terrorists (1)</b> 28:11 <b>test (5)</b> 64:12;124:2,4,6; 244:15 <b>tested (5)</b> 83:1;112:21;113:1; 119:12;190:21 <b>testified (6)</b> 388:15;390:10,15; 401:10;402:15,19 <b>testify (18)</b> 126:21;127:15; 130:15;146:12,14; 234:19;241:20,22; 292:14;327:12,13; 334:8;390:14;391:1; 398:10;401:15;409:9; 410:3 <b>testifying (3)</b> 318:2;387:5,7 <b>testimony (19)</b> 18:4;71:2,7;122:3, 19;126:17;127:7; 136:15,18;197:17; 302:1;326:12;359:20; 398:17;399:1;404:14; 409:17,19,22 <b>testing (7)</b> 64:11;82:6,7,11,14; 199:4;243:14 <b>tests (3)</b> 16:14;191:7;193:1 <b>Texas (2)</b> 33:1;42:15 <b>theater (92)</b> 130:3,4;133:2,5; 136:14;142:17;144:9; 146:1;162:17;170:13; 171:17,18,19,22;173:3, 7;185:8;186:1;187:4, 10,11,13,19;188:10,10, 12,16,17,22;189:1;	202:11,20;203:3,3,3,4, 4,8,9;217:6;225:11,11; 227:13;228:4;235:13; 243:15;261:2,4;262:8; 282:16,19,22;284:6,6, 7,8,8,19;285:5,13,13, 15;295:3;296:19; 297:4,5,12,19,20; 298:5;299:7,18;303:8, 10,22;304:4,5,21; 305:2,19;306:6,19; 307:6,17;309:11; 341:19;347:14;376:13; 380:12;381:4;407:10; 422:11 <b>theaters (1)</b> 172:22 <b>theater's (1)</b> 130:6 <b>Theatre (1)</b> 165:10 <b>Theatres (1)</b> 165:9 <b>their's (1)</b> 287:1 <b>theory (1)</b> 320:17 <b>thereafter (1)</b> 92:22 <b>therefore (1)</b> 334:7 <b>thigh (1)</b> 385:1 <b>thinking (3)</b> 60:11;203:5;212:6 <b>third (8)</b> 157:12;218:17; 231:16,17;232:6; 234:6;314:2,3 <b>thirteen (1)</b> 293:16 <b>thirty-five (8)</b> 304:15;305:12; 306:2,12;307:2,11,22; 309:16 <b>thirty-seven (1)</b> 282:6 <b>though (3)</b> 5:19;146:15;347:6 <b>thought (6)</b> 232:14;248:16; 251:20;253:17;274:9; 315:1 <b>thousand (2)</b> 166:6;301:12 <b>three (50)</b> 21:12;22:1;31:6; 33:19;34:3;41:13; 46:13;47:16;76:2; 91:18;93:10,12;108:7; 116:17;122:6;133:12; 158:22;171:15;172:6; 184:13;190:3;202:14;	212:22;224:10;269:11, 13;276:4;277:9;278:1; 283:5;306:19;314:16; 329:11,12,13,16; 340:16;341:12;343:9; 349:9,9;353:7;354:2; 355:16;361:14;362:11, 19;366:12,13,16 <b>three-day (1)</b> 42:15 <b>Three-foot (1)</b> 348:9 <b>throughout (13)</b> 5:7;194:22;212:11; 221:6;315:10;319:14; 357:12;360:8;384:4; 386:14;396:7;398:22; 413:22 <b>throwing (2)</b> 339:9;419:3 <b>thrown (3)</b> 399:17;406:1;408:9 <b>thumb (13)</b> 81:11;133:1;135:21; 150:20;152:12,14; 158:15,17;166:1; 169:16;183:19;195:1; 312:11 <b>ticket (5)</b> 188:18;204:20; 205:3,3,7 <b>tickets (7)</b> 173:2;187:16;188:7, 8,17;202:16;210:10 <b>tie (5)</b> 336:15;404:2,5; 405:2;406:12 <b>tied (25)</b> 160:14,17;213:16; 230:5;294:2;384:2; 400:4,17,18,18;403:18; 404:10,16;406:10; 407:15,20;408:17,18; 409:6;411:19;412:10, 14;413:7,18;420:6 <b>ties (1)</b> 412:20 <b>TIFF (7)</b> 90:4;91:3;98:17,19; 257:8;259:2;277:14 <b>TIFFs (1)</b> 280:20 <b>time/date (1)</b> 207:3 <b>time-adjust (1)</b> 133:10 <b>time-adjusted (1)</b> 133:19 <b>timed (1)</b> 294:9 <b>timeframe (9)</b> 52:18;143:18; 221:19;238:10;248:4;
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280:3;342:19,21; 344:18 <b>timeframes (2)</b> 247:22;249:19 <b>time-lapsed (1)</b> 219:4 <b>timeline (20)</b> 193:10;209:12,13; 284:2,9;303:13;304:6, 9;305:21;306:1,9,11, 21,22;307:8,9,19,21; 308:7,8 <b>timelines (2)</b> 67:22;308:21 <b>times (34)</b> 5:17;34:3;43:4;44:6; 61:12;65:16,17;66:5; 73:19;86:19;113:2; 117:16,17;118:22; 119:22;125:14;179:17; 180:15;183:8;213:14; 263:7;264:7;271:3; 278:9;284:12;297:20; 299:20;303:10;364:12; 381:10;397:4;398:21; 401:17;420:5 <b>timestamp (22)</b> 136:20,21;137:3,6,7, 11,17;174:20;175:15, 17;176:7,8;181:22; 182:8;207:13,14,17; 279:3;301:5,10; 363:22;392:12 <b>timestamps (6)</b> 137:1;174:12,15,18; 207:22;213:7 <b>tit (1)</b> 230:2 <b>title (6)</b> 58:11,13;90:5; 303:15;304:11;309:17 <b>titles (15)</b> 58:14;285:18;300:5; 303:18;304:18;305:15; 306:4,15;307:3,14; 308:2,13,22;309:3,22 <b>today (13)</b> 18:4,12;49:7;122:3; 139:4,10;150:2; 245:20;267:8;310:21; 317:4,5;318:2 <b>toe (1)</b> 385:2 <b>together (12)</b> 69:17;123:5,17; 125:3;129:21;167:11; 190:17;193:10;299:15; 386:2;400:20;416:14 <b>told (27)</b> 16:16;125:14; 139:10,15,17,18;141:8; 142:1;150:15;152:12; 153:2;163:4,14;164:9,	16;188:15;232:7,10, 11;283:16;298:7; 315:17;316:20;345:10; 347:3;386:16;387:1 <b>tonality (2)</b> 262:22;263:1 <b>Tony (2)</b> 204:21;294:12 <b>took (42)</b> 8:5;10:5;11:13; 16:14;22:8;27:8,11,13; 29:8;31:14,19;33:19; 42:4,19,20;43:13;52:2; 55:8;62:14;63:11;97:9, 10;102:20,21;136:11; 156:7;172:13;173:7; 278:21;279:4;280:3; 320:9;331:13;341:21; 354:5,15;367:22,22; 375:10,11;421:21; 422:2 <b>tool (5)</b> 128:7,8;327:20; 330:21;333:21 <b>tools (2)</b> 16:2;30:6 <b>top (41)</b> 30:15;78:16;79:5,19; 126:5;188:20;192:4; 215:9;233:16;257:6; 260:4;294:21;296:21; 297:6,14,21;299:21; 330:8;335:12;337:5,8, 9;338:12,16;340:17, 20;343:18;346:4; 349:20;358:19;361:14; 363:1,8,20;365:15; 367:3,17,18;369:1,2; 383:11 <b>topic (5)</b> 7:4;55:10,10,10;79:3 <b>Toshiba (2)</b> 157:13;185:1 <b>total (1)</b> 283:6 <b>totality (1)</b> 287:9 <b>totally (1)</b> 360:13 <b>touched (2)</b> 122:2;164:20 <b>touching (1)</b> 135:1 <b>Touhy (1)</b> 146:13 <b>tours (1)</b> 52:16 <b>toward (1)</b> 10:20 <b>towards (16)</b> 8:6;9:4;10:2;17:9,16, 21;18:7;19:2,4,7; 59:17;147:6;202:17,	22;350:4;373:13 <b>track (9)</b> 23:2;52:8;91:17; 176:2,3;188:6;294:14; 298:19;304:7 <b>tracked (2)</b> 210:9;295:2 <b>tracking (2)</b> 86:21,22 <b>tracks (12)</b> 209:14;294:9,19,20; 296:21;297:6,14,21; 299:20;303:11;305:4,5 <b>train (4)</b> 34:5;61:18;127:20; 386:11 <b>trained (8)</b> 12:5;70:20;71:6; 386:3,7,10,15;388:6 <b>trainee (1)</b> 127:19 <b>trainer (3)</b> 12:2,6;55:9 <b>trainers (1)</b> 64:17 <b>training (64)</b> 7:17;8:4,22;9:8,11, 13;11:6,8,11,13,16,22; 12:5,10,14;13:9,16; 14:13;15:12,13,22; 17:20;18:11,14;25:18, 19;28:17;31:13,15,15, 18,19,20;32:5,13; 33:16;41:17,19,19; 42:6,21;43:4;44:14; 49:14,15,16,18;50:5; 54:20;62:6,12,13;63:2; 64:21;71:11,13; 102:15;103:17;125:16; 135:1;302:22;327:2; 386:8,9 <b>transcribed (1)</b> 421:19 <b>transcript (1)</b> 410:4 <b>transfer (1)</b> 98:3 <b>transferred (2)</b> 35:7;41:1 <b>transform (15)</b> 295:1;297:1,9,17; 298:2,2;299:4;300:1; 304:15,16;305:12,13; 306:14;307:13;308:12 <b>transition (4)</b> 29:17;32:16;122:8; 300:5 <b>transitional (1)</b> 122:12 <b>transitioning (1)</b> 124:2 <b>transitions (12)</b> 285:18;303:19;	304:18;305:16;306:4, 16;307:4,14;308:2,13; 309:3,22 <b>traveled (1)</b> 74:1 <b>traveling (1)</b> 320:20 <b>treatise (1)</b> 77:6 <b>treatises (2)</b> 78:15,19 <b>triage (1)</b> 78:22 <b>trial (3)</b> 82:4;134:16;136:10 <b>tricky (1)</b> 77:10 <b>tried (5)</b> 173:9;233:4;258:19; 369:22;380:12 <b>tries (1)</b> 259:14 <b>troposcatter (1)</b> 26:17 <b>true (10)</b> 76:15;105:19,19,22, 22;108:8,8;349:13; 372:19;389:12 <b>Trust (1)</b> 239:16 <b>truth (4)</b> 241:13,15;244:21; 399:7 <b>truthful (1)</b> 326:11 <b>try (35)</b> 18:22;24:9;64:8,9; 66:17,19;93:1;94:7,18; 95:12;96:20;104:8,11; 107:17,17,20,22; 121:15;150:5;159:7; 163:19;166:12;186:19; 196:3;227:14;250:21; 274:15;342:9;345:22; 348:21;349:1;351:19; 357:14,17;359:1 <b>trying (29)</b> 53:7,14;75:15,21; 104:19;106:3,17,19; 109:11,18;119:14; 165:17;227:12,22; 233:1;241:10;248:19; 249:22;260:8;289:13, 15;319:2;325:2; 352:14;362:2;378:20; 379:17,20;399:10 <b>tune (1)</b> 168:3 <b>turn (5)</b> 41:15;175:7,7,9; 176:4 <b>turned (1)</b> 41:12	<b>turning (1)</b> 155:21 <b>twelve (3)</b> 178:10,13;353:7 <b>Twenty (8)</b> 37:14,18;162:9; 257:21;258:10,10,22; 280:11 <b>twenty-five (2)</b> 300:3;308:10 <b>two (146)</b> 6:7,9;7:15;8:17,17, 18;21:14;26:1,3;28:20; 34:15;40:19;41:3,12; 56:2;57:19;59:7;63:8, 11;65:1;74:1,22;75:4; 89:10,13;92:22; 116:17;122:10;124:12; 125:1;133:10;135:4; 137:1;141:6;144:11, 14;150:20;158:14,17; 167:20;169:12;171:8; 172:3,6,22;174:9; 178:9,12;179:12; 181:13;182:8;183:9, 17,19;184:13;185:22; 189:22;194:6;200:9; 202:4,9;203:9;205:3, 11;210:7;211:2; 212:12;222:7;224:17; 225:3;234:8;240:19; 241:1,3,5;242:5;244:2, 3,4;249:6,8;261:6; 271:22;272:2;275:16; 277:20,21;283:3; 293:17;294:6,9,9,19, 20,20;296:20,21;297:6, 6,13,14,20;299:20,20; 303:10;305:5;306:18; 308:16;313:6;314:8, 20;318:22;319:16,22; 320:3,14;322:18,21; 329:11,12,13,17,18; 342:15;352:13;354:2, 2;355:16;357:8;359:6; 365:22;376:3;379:6; 382:21;388:16;394:14; 395:20;400:3;401:1; 403:22;406:12;410:20; 414:5;419:1,17;420:17 <b>two-and-a-half (1)</b> 313:5 <b>two-foot (1)</b> 348:8 <b>two-page (1)</b> 129:12 <b>two-year (2)</b> 49:15;168:4 <b>type (33)</b> 17:22;18:15;20:10; 23:10,20,21;55:15; 59:11;67:6;68:10;90:2, 3,22;91:2,6,7,7,20;
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92:4,12;94:5,6;95:18; 96:6;101:3;104:9,18; 120:17;121:7;179:17; 218:10;250:4,5 <b>types (7)</b> 64:11,13;69:8;77:11; 116:13;174:15,17 <b>typo (5)</b> 38:11;122:15,20; 137:12,14	110:13 <b>Unmanned (1)</b> 36:4 <b>unscientific (1)</b> 302:8 <b>unsharp (1)</b> 112:7 <b>up (102)</b> 17:18;23:5;27:13,22; 33:14;36:7,13;46:16; 49:14;51:17;52:14; 61:1,1;68:17;80:22; 81:3;83:17;84:3,94;13; 107:2,20;124:4,5; 125:5;141:14;145:13; 161:17;165:14;167:3; 178:10,19;180:3,22; 187:10,16,21;188:17; 189:2;190:17,18,19; 196:22;204:21,22; 205:7;210:11;212:21; 213:17;214:1,20; 216:6;217:3;219:20; 226:17,20;230:12,14; 239:8;243:10;258:5; 259:6,11,13,15;266:14; 268:1;270:12;284:12, 13;297:4;305:6; 309:18;317:1,5; 321:21;322:1;329:18; 330:8;340:14;341:9, 16,22;342:6;344:7; 345:2;349:8,10,11; 353:7,22;361:14; 363:1;367:17,18; 368:8;369:2;373:12; 380:17;385:18;404:9; 412:3;417:8 <b>updated (2)</b> 63:4,6 <b>upon (11)</b> 4:1;46:3;66:11,13; 85:4;122:2;130:8; 134:14;135:1;162:8,10 <b>upper (2)</b> 322:19;350:3 <b>upright (8)</b> 337:6;349:21,22; 350:6,14;351:10,21; 352:2 <b>upscale (1)</b> 216:16 <b>USA (1)</b> 45:3 <b>usable (1)</b> 189:16 <b>USB (30)</b> 151:15,16,20,22; 153:4,9,12;154:17; 155:4,10;156:18; 158:7;168:14,16; 169:12;171:2;174:9; 175:15;176:6;177:18;	184:22;185:1,2; 189:22;190:6;193:13; 194:1,6;220:8,9 <b>USBs (3)</b> 170:22;174:12;213:1 <b>use (86)</b> 20:3;30:12;35:19,20, 21;36:1;42:16,17; 48:17;51:3,22;55:2,6; 64:2,5,20;69:7;72:16, 21;82:6;84:8;85:1,13; 92:13,14;94:10,12; 100:14;101:10,17; 102:2,9,11;103:2,19; 104:1;108:22;113:1, 11,13;114:16,18,22; 115:20;116:3,9,12,12, 18;117:5,8,13;118:6, 14,18,22;120:10,12; 121:2;130:8;153:9; 155:3;157:3;176:3; 193:22;195:22;197:11; 206:18,18,21;220:20; 224:16;226:19;264:20; 290:12;291:7;302:20; 303:8;304:4;322:8; 326:7;340:5;355:18; 357:14;386:19;388:2 <b>used (48)</b> 16:2;18:1;20:6,7,11; 30:6,17;36:5,6;51:21; 72:13;81:9;103:16,22; 109:6;127:13,13; 135:14;138:2;140:1; 145:19;167:18;207:4; 213:15;219:1;224:10; 246:3;264:13,18; 280:9;288:22;289:2, 20;303:8;304:3;305:2; 310:7,15;324:8; 332:16;341:7,8,10; 356:7;365:10;380:13; 383:19;386:13 <b>uses (8)</b> 115:4,9,14,21;116:3, 22;117:2,10 <b>using (32)</b> 34:7;57:17;64:4; 91:16;98:8;100:15; 101:16;103:9;105:21; 112:19;113:15;115:22; 118:9,21;193:11,13; 194:6,11,14;298:12,18; 310:4,318:3,17; 320:11;324:7;332:16; 333:21;339:21;343:22; 383:7;388:10 <b>usually (37)</b> 62:3;67:12;75:20; 85:1,7;86:14;87:3,22; 93:5,15;95:1;97:11,21; 98:2,2,12,17;99:7; 101:17;103:4;111:21;	112:20;124:21;126:16; 131:13;145:12;153:16; 154:5;159:5;162:7; 166:9;170:13;175:6; 219:18;242:8;335:9; 337:3 <b>utilize (1)</b> 109:18 <b>utilized (7)</b> 51:20;81:8;95:3; 113:10;303:9;304:4; 305:3 <b>utilizes (2)</b> 103:18;115:18 <b>utilizing (2)</b> 96:9;303:2 <b>Uxbridge (2)</b> 27:4,10	75:16 <b>verbiage (3)</b> 58:22;140:2;316:11 <b>verification (1)</b> 128:8 <b>verifications (1)</b> 85:16 <b>verified (3)</b> 128:14;154:1;228:19 <b>versa (1)</b> 68:9 <b>version (2)</b> 110:3;331:17 <b>versions (1)</b> 326:20 <b>versus (21)</b> 23:14;77:18;89:1; 114:1;130:2;261:13; 262:21;267:17;280:19; 286:9,11;287:2,10,16, 18;295:17;315:20; 317:14;350:14;397:6; 402:7 <b>VHS (1)</b> 55:3 <b>via (2)</b> 192:18;267:16 <b>vice (1)</b> 68:9 <b>victim (10)</b> 141:6,8,15;142:14, 18,20;143:22;159:17; 186:3;299:19 <b>video (515)</b> 14:5,5;15:22;16:1; 23:22;25:2;31:12,21; 32:18;33:8,9,11,13,14, 16;34:2,6;37:5;38:21; 40:2;41:7;43:11;44:4; 47:10,17,19,22;49:9, 13;50:8;51:12;52:7,8; 55:21;56:5,19,20,21; 57:6;58:2;59:17;60:20; 61:4;63:18;64:4;65:4, 5,16,17;66:8,14,16; 67:1,2,3,6,9,12,13,22; 68:10,17,17,20,20; 69:2,3,5,16,18;70:12, 19,22;71:9;72:17;73:3, 20;75:17;77:1,11,16; 80:1,13,15;91:4,5,5; 92:21,22,22;93:1,1,16; 94:6,13;96:5,9,17; 98:6;99:9,10,17,18,20; 100:4,10,12,14,15,18; 103:7,12;104:10; 106:7;111:5;113:11, 21;120:22;121:6,7,10, 14,17;124:22,22; 128:15;130:6,10; 131:22;132:7,8,9,11, 19;133:2,19;134:14; 135:7;137:1;138:4,13;
<b>U</b>			<b>V</b>	
<b>UAV (1)</b> 36:6 <b>UAVs (2)</b> 35:13;36:4 <b>unbelievable (1)</b> 339:12 <b>uncompressed (11)</b> 93:18;95:12,13; 98:12,14,15;207:7; 284:4;303:7;304:3; 328:10 <b>uncross (1)</b> 299:18 <b>uncrossed (3)</b> 298:6,7,8 <b>uncrosses (1)</b> 404:10 <b>uncrossing (3)</b> 299:7;404:13;417:5 <b>Under (6)</b> 134:18;139:4; 225:21;323:18;324:4; 414:9 <b>underlying (2)</b> 89:15;221:6 <b>underneath (1)</b> 375:7 <b>understood (1)</b> 178:3 <b>unenhanced (2)</b> 252:20;270:11 <b>unfolds (1)</b> 375:20 <b>Unfortunately (3)</b> 5:16;146:21;324:1 <b>Unh-unh (2)</b> 82:1;172:11 <b>unison (2)</b> 241:2,4 <b>unit (3)</b> 58:18;161:9;323:17 <b>United (8)</b> 7:10,13;8:10;29:8; 33:4;37:2;44:16;68:8 <b>University (9)</b> 7:7,8,9,9,5;10:19; 21:4;22:7,8,13 <b>unless (3)</b> 6:1;287:8;300:11 <b>unlike (1)</b>			<b>VA (16)</b> 295:1;297:1,9,16,16; 298:1,2;299:3;300:1; 304:15,16;305:12,13; 306:14;307:12;308:12 <b>vague (2)</b> 152:6,10 <b>vaguely (1)</b> 149:7 <b>valid (1)</b> 321:19 <b>Valley (3)</b> 28:19;29:3;31:1 <b>value (23)</b> 81:7,8;88:7,21;89:1, 7;90:18;128:6,6,8; 321:3;322:2;323:3; 328:4;329:8,21; 330:10;334:8;349:6; 357:7;370:4;372:13; 381:2 <b>values (7)</b> 81:14;91:16;132:11; 320:22;329:8;334:7; 380:17 <b>variable (5)</b> 132:9,12,13;177:15, 16 <b>variation (1)</b> 321:15 <b>variety (1)</b> 357:20 <b>various (1)</b> 334:7 <b>vast (1)</b> 79:12 <b>vehicle (5)</b> 75:17,18,19,22;76:1 <b>Vehicles (5)</b> 36:4;73:18;74:16; 86:22;215:22 <b>vehicle's (1)</b>	

139:22;140:1;141:4; 142:3,4,5,12,19;143:1, 18,19,21;144:2,7,21, 22;145:11,15,20,21; 146:10;153:4,6;154:7; 155:17;158:4,13,14,15, 21;160:8;161:8; 162:19;163:14;169:1, 11,16,20;170:2,2; 172:9,22;174:4,20; 175:2,3,5,8,22;176:21, 21;178:1,22;180:1; 181:6,16,16,17,19,20; 182:5,17;183:20,21; 184:1,7;189:5;193:2, 17;195:13;197:1; 198:20;201:1,7,8; 206:4;207:4,6,7,8; 208:11;209:14;210:15, 18;211:18;212:9; 214:7;215:13,21; 216:14;217:6,14; 218:6,7;219:16;220:5, 7,10,15,16,16;221:6,7; 222:7;223:8;230:1,4, 22;231:1,8,8,10,15; 232:5;233:6,8;234:11, 13;235:22;236:1,2; 237:2,4;238:1,4,6; 243:8;245:18,19; 246:5,6;249:15,17,19; 250:4,5,18;251:12,14; 252:8;261:3;263:20; 265:22;266:1;268:11, 15;273:22;274:16; 275:21;278:5,6,7,8,10, 12,12,13,18;279:4; 280:3;282:9,13,15,18, 20,20;283:1,4,21; 284:16,18,20,22;285:1, 6,11,14,18;286:2,3,17, 20;287:1,4,8,10,12,15, 15,17,18;288:20,22; 289:5,11,17;290:2,3,7, 14,15,16;291:13;292:6, 13,14;293:5;294:1,4,6, 6,9,9,14,19,21;295:14, 16;296:5,21;297:3,6,6, 7,11,14,14,21,21; 298:4,10,13,19;299:6, 14,20,20,21;300:4,5, 17;301:3,6,8,21;302:2, 19;303:11,14,15,15,18; 304:2,7,9,10,11,18,21; 305:4,5,8,15,22;306:4, 9,10,13,15;307:4,9,12, 14,20;308:1,2,8,12,13, 17,18;309:1,1,2,3,17, 20,21,22;311:9; 313:20;315:3;318:11; 319:17;323:17;325:2, 7,13,15,17,18,20,20; 326:5,10,15,19;327:6;	328:6;329:2,10;333:6; 336:10,17;341:18; 344:5;345:5;359:18; 360:8;366:1;370:8; 372:15,22;373:3,8; 374:5;375:4,14,15,16; 376:18;380:18;383:4; 384:4;385:21;386:1; 388:8,9;391:6,18; 392:11,12;393:8; 396:1,5,6,7,9;398:10, 13,18,19;400:1; 404:12;409:10;410:10, 18;411:1,4,10,12,16, 22;413:22;414:16; 416:16;417:19,22; 418:21,22;419:8,10; 420:4,15 <b>VideoFOCUS (5)</b> 43:21;44:3,4,17; 49:19 <b>videos (94)</b> 70:21;93:2;119:16; 127:7;133:6,6,10,12; 136:3,15,17,19;138:3; 146:1;154:19;161:9; 162:16;164:2,5; 165:20,22;168:18; 173:21;178:2;184:5; 189:7;190:7;193:6; 206:5;207:15;209:11; 218:8;219:12,12; 222:19,21,22;223:9,10; 224:17;237:9;250:19; 274:21;280:16;281:6, 11,13,17,22;282:5,10; 283:7,14;284:5,21; 285:1;286:1,1;291:16; 292:2;293:9;294:11, 20,20,22;296:21,22; 297:8,14,16,21;298:1; 299:3,22;303:8,9,10; 304:4,4;305:2,3,5; 310:2,12;311:6,16,19, 21;312:2;313:18,21; 324:5;331:7;388:9 <b>view (26)</b> 65:10,10;66:10; 67:21,21;68:1,8;96:3, 5;105:18,19;110:14; 149:6;156:8;174:6,7; 234:4,13,13;235:22; 264:1;285:2;288:7; 315:4;335:11;346:3 <b>viewed (1)</b> 233:8 <b>viewing (27)</b> 65:6,8;66:8,14,15; 67:14,17;68:4;80:18; 99:13;106:20;113:18; 118:8;143:1;177:18; 195:3;228:21;233:7; 263:20,21;289:6;	310:5;332:6;333:4; 375:4,15;414:16 <b>views (7)</b> 68:5;184:17,18,19; 210:13;398:3,5 <b>Virginia (2)</b> 4:5,9 <b>visibility (1)</b> 216:20 <b>visible (5)</b> 80:16;93:6;119:18; 121:17;373:13 <b>visibly (1)</b> 143:10 <b>visual (58)</b> 87:3;105:18;106:1,2; 108:13;110:15;111:21; 113:20,22;114:20; 119:13;174:3,4;175:6; 176:2;179:16;180:1; 196:14;199:3,4; 211:17,21,21;212:3,5; 213:17;247:7;251:6; 273:21;281:1,7; 286:15,15;287:11; 291:3;296:17;298:9, 12,18;301:20;302:1, 12;310:19;315:2; 316:18;324:18;331:9, 14;332:9;333:8; 360:17;366:15;374:16; 383:17,20;388:6,13; 413:3 <b>visualization (1)</b> 224:9 <b>visualize (4)</b> 176:3;342:16; 345:13;400:12 <b>visually (22)</b> 91:19;108:12; 142:16;177:20;190:22; 193:20;212:10;223:7; 230:4;234:9;274:21; 288:10;289:17;295:7; 296:10;315:10;383:1, 2;400:15;406:14,15; 411:16 <b>voltage (3)</b> 81:6,7,15 <b>voodoo (1)</b> 323:1 <b>vulnerabilities (2)</b> 14:15,19	<b>walk (4)</b> 50:10;205:11;294:8, 19 <b>walked (7)</b> 51:10;171:13,17; 188:21;284:17;351:13, 15 <b>walking (15)</b> 188:17;202:7,11; 341:17,19;342:3; 345:7;351:9;352:1; 365:11;392:20,22; 393:2,12;400:11 <b>walks (9)</b> 202:17,17;205:7; 284:7;285:6,12; 294:15;408:21,21 <b>wall (6)</b> 229:15;230:12,13, 14;262:7;324:21 <b>watch (5)</b> 230:4;236:3;261:3; 326:19;396:6 <b>watched (5)</b> 172:18;278:9;373:3; 383:3;410:20 <b>watches (2)</b> 251:13;301:21 <b>watching (2)</b> 287:11;411:14 <b>water (1)</b> 61:20 <b>way (70)</b> 7:18;17:18;24:10; 65:8,11;89:20,20;97:2; 98:10;113:4;114:11; 115:4;124:5;125:7,8; 127:13;128:4;153:16; 167:1;173:1,3;178:20; 180:3,6,11;182:12,16; 185:22;187:16;195:9; 196:17;210:10;216:6; 217:2,3;219:13; 221:21;224:2,3;236:1; 260:18;263:21;270:14; 274:21;286:17,18,21, 22;287:3;288:9; 289:18,18;301:9,13; 302:19,20;326:20; 333:8;337:18,19; 339:15;345:4;346:8; 356:9,15,16,18,19; 380:10;400:19	333:9 <b>weeklong (2)</b> 15:20;43:14 <b>weeks (1)</b> 25:19 <b>welcome (1)</b> 226:12 <b>weren't (4)</b> 28:13;223:16; 244:19;251:21 <b>what's (113)</b> 6:18;11:18;12:4; 27:18;29:7;35:9;45:14; 65:11;68:4;69:1,5; 72:1;75:10;77:14;84:5; 89:18;91:10;93:14; 105:9;108:2,12,16; 117:21;120:21;147:1; 156:1,9;159:22; 176:12;178:12;185:15; 191:16;195:1;197:5; 217:20,22;223:5; 231:2;233:13;234:10; 243:18;248:19;249:5, 21;250:1;251:14; 252:17;263:14;265:11; 266:18;268:17;269:7, 19;271:11;273:20,22; 275:22;278:11,17; 288:3;290:14;292:6, 13,14;298:13;299:16; 300:16;301:1,19; 311:19;313:15;316:15; 319:10;324:20;325:13, 15;326:4,18;343:6,9; 345:5;349:19;358:15; 359:11,19;360:9; 361:11;365:8;373:1,3, 7;374:4,9,20;377:15; 388:9;392:10,12; 394:8;395:16;398:13, 20;399:4;400:21; 401:6;403:14;408:11; 409:4;410:11;411:1, 16,17;421:22 <b>whatsoever (4)</b> 154:4;183:4;237:6; 251:3 <b>whenever (1)</b> 87:17 <b>Whereupon (19)</b> 4:15;123:10;211:12; 236:9;313:8;314:11; 338:8;358:6;360:20; 364:10;367:10;368:9, 16;370:18;379:9; 393:20,22;422:9,11 <b>wherever (1)</b> 68:12 <b>white (85)</b> 105:19,22;106:9,12, 12;108:8;118:11,13, 17;219:3;235:3;
--	--	--	---	---

236:22;237:10,11,15, 16;239:18;240:14; 242:19;244:5,14; 245:10,15;247:6; 259:1,17,21;260:3,5, 20,22;261:6;262:10,20, 21;264:9,12;265:3,15; 271:14,14,17;280:12; 297:3,11;298:4;299:6; 300:4;304:1,22; 305:20;306:3,4,7,13, 20;307:3,6,12,18; 308:1,5,11;315:6; 320:13;321:8,9,10,16; 322:18;329:2,7; 334:20;335:19,20,21; 336:3;354:1,18; 383:13;415:8,11,12,21; 420:12 <b>whiter (1)</b> 260:10 <b>whites (1)</b> 106:10 <b>Whoa (1)</b> 258:2 <b>whole (20)</b> 22:17;35:4;50:13; 85:21;87:1;88:11,12; 94:9;100:22;119:8,21; 190:16;199:18;211:6; 220:13;255:17;310:3; 311:6;414:3;416:17 <b>who's (1)</b> 318:14 <b>wide (2)</b> 85:19,20 <b>wideband (3)</b> 11:10;20:6;24:17 <b>width (3)</b> 341:4;358:19;359:7 <b>wife (8)</b> 46:13;188:20; 284:14,17,19;294:8,14, 18 <b>windows (2)</b> 184:4;226:16 <b>Wing (1)</b> 11:12 <b>within (122)</b> 50:14;55:18;56:8,11; 58:7;61:19;64:9,20; 65:4;69:8,11;70:11,21; 72:12,17;73:5;77:14; 87:7;90:10;92:21; 97:22;98:7;100:14; 103:7;104:10;106:18; 107:1,5,15;108:11; 109:3;116:17;118:3, 17;119:5,15,18; 120:21;124:12;125:16; 126:18;127:3;132:11; 135:8;138:7,11; 145:22;147:14;148:1;	156:1;159:8,14;160:5; 163:5;168:9;172:21; 173:7;175:3;179:10; 180:1;187:4,13; 192:17;193:6,8; 194:19;195:13;198:15; 200:8;206:12,20; 207:3;209:21;210:14, 15,18;212:12;213:3,4; 214:19;215:3,11; 222:19;223:7;224:16; 227:13;229:10;232:4; 233:7;239:7;243:14, 21,22;245:1;250:18; 252:8;259:15;263:6; 265:6;268:15;271:5; 284:10;286:17;301:6; 310:11,11;312:6; 313:18;319:17;326:7; 327:20;333:21;345:4; 352:15;353:2;362:4; 369:6;370:1;396:6,8; 400:1;402:18 <b>without (7)</b> 113:5,6,15;219:20; 261:15;309:2;375:15 <b>Witness (28)</b> 5:15;42:3;51:12; 96:3;117:7;135:13; 136:1;201:5;207:20; 211:11;225:14,16; 236:20;239:10;254:10; 258:8;275:14;282:9; 285:10;293:17;313:7; 335:21;336:3;389:14, 18;409:16,18;410:5 <b>witnesses (1)</b> 365:4 <b>wondering (1)</b> 62:13 <b>word (11)</b> 106:4;162:4;224:14; 240:13;264:14,19; 317:18;318:3,17; 367:6;396:22 <b>wording (1)</b> 315:20 <b>words (5)</b> 87:18;127:10;302:3; 322:7;405:4 <b>wore (1)</b> 267:7 <b>work (54)</b> 9:17;17:22;22:21; 29:11,16,19;39:16,17; 47:12;55:16;59:15,17; 78:11;83:21;94:8,21; 95:12,13,14,15;96:7, 14;97:1,5;99:6;112:15; 116:20;121:22;127:10, 17,19,19;128:2; 131:10;150:15;173:17; 174:4;179:1;183:4,6;	193:12;196:4;197:16; 200:2,9,14;206:12; 207:11;216:12;219:11; 235:6,7;242:2;300:10 <b>worked (15)</b> 25:8;26:5,12,16; 27:7;34:12;41:2;59:9; 122:5;167:1,21;168:1; 183:8;200:12;324:12 <b>working (8)</b> 24:4;68:9;96:4; 122:11;165:19;167:20; 182:12;324:6 <b>works (10)</b> 10:12;64:19;80:11; 81:22;83:2,8;101:5; 214:8;336:13;357:10 <b>world (2)</b> 380:20,22 <b>worried (4)</b> 227:2,5;242:10,10 <b>worry (2)</b> 13:2;227:6 <b>worse (2)</b> 391:15,18 <b>worth (6)</b> 11:13;12:10,14; 92:21,22;349:4 <b>worthwhile (1)</b> 124:17 <b>write (6)</b> 34:6;66:22;72:3; 93:5;268:18;317:10 <b>written (8)</b> 77:9;94:10;146:19; 200:15;205:16;243:16; 290:5;301:21 <b>wrong (3)</b> 122:4;410:17;422:2 <b>wrote (3)</b> 146:20;316:10;413:4  <b>X</b>  <b>XY (4)</b> 83:19,21;84:1;341:7  <b>Y</b>  <b>year (14)</b> 15:14;20:20;26:19; 28:22;31:18;36:15; 41:20,21;75:16; 103:19,20;129:18; 140:22;253:19 <b>year-and-a-half (1)</b> 34:20 <b>years (32)</b> 7:15;10:6,15;20:12; 22:20;26:1,3;28:20; 30:19;31:6;34:4;37:14, 18;79:1,1;97:5;111:10; 124:13;125:3,16;	143:1;144:4,5;162:9; 167:20;183:9;192:5; 289:3;386:14;388:7; 410:20;411:14 <b>yellow (2)</b> 363:2,5 <b>Yep (14)</b> 10:13;38:17;84:14; 104:12;106:14;123:16; 135:9,20;205:13; 233:21;363:14;383:9; 391:12;417:11 <b>young (2)</b> 13:6;421:21  <b>Z</b>  <b>zero (25)</b> 221:20;257:21; 258:10,11,22;280:11; 300:3;304:15;305:12; 306:2,13;307:2,11; 308:1,10;309:9,17,19; 320:14;321:10,11; 322:18,21;352:12; 357:8 <b>zoom (6)</b> 239:8;246:21; 250:20;256:19;268:1; 278:4  <b>0</b>  <b>0113130456 (1)</b> 294:18  <b>1</b>  <b>1 (28)</b> 4:16;6:19;24:12; 123:5;128:20;129:2; 151:11;171:19;358:4, 6,11,12,16,17,22; 359:5;360:1;367:9,11, 15;369:14;371:8,9; 372:3,7;374:6,20; 375:1 <b>1,442 (2)</b> 282:14,14 <b>1/13/2014 (9)</b> 304:1;305:1,20; 306:7,20;307:7,18; 308:6;309:12 <b>10 (18)</b> 11:1;169:7;171:9,19, 22;202:20;203:3,3,4, 4,5,8,9;285:13;379:8, 11;403:14 <b>10:17 (1)</b> 123:11 <b>10:27 (1)</b> 123:11 <b>100 (2)</b>	106:1;220:14 <b>1080 (20)</b> 284:4;285:19;300:6; 303:6,20;304:2,20; 305:2,17;306:5,8,17; 307:5,15;308:4,15,19; 309:4,13;310:1 <b>11 (76)</b> 143:12,13;162:17; 184:16;185:9,10; 186:11;187:3;188:22; 193:22;198:20;203:12, 13;220:7;221:18; 222:22;223:1,11; 225:11,22;226:3,9; 231:4;257:18,18,19; 262:2;270:13,13,16,19; 272:21;273:1;276:7; 282:16;284:20;285:15; 295:3;296:19;297:19; 298:5;299:7,18;303:5, 8,10,12,22;304:4,5,8, 14,16,22;305:3,6,11, 13,19,21;306:6,9,19, 21;307:6,8;308:17,22; 309:11,14,16;334:15; 394:2,6;422:12,13 <b>11's (1)</b> 262:4 <b>12 (66)</b> 10:6;143:14;162:17; 169:7;184:16;185:9, 11;186:12;187:4; 188:22;194:1;198:20; 203:12,13;204:1; 220:8;221:18;222:22; 223:1,11;225:11,20; 231:4;270:11,12; 272:22;273:2;277:12; 278:14;280:20;282:19; 284:20;285:3,15,16,17; 297:4;303:5,9,10,12, 16,22;304:4,6,8,12,14, 17,22;305:3,6,8,14; 307:17,18;308:5,7,17; 309:5,8,12,14,18; 422:11,15 <b>12:00 (1)</b> 211:13 <b>12:35 (1)</b> 211:13 <b>13 (3)</b> 13:15;23:5;309:12 <b>13:14 (7)</b> 305:20;306:7,20; 307:7,18;308:6;309:13 <b>13:18:10.412 (1)</b> 280:4 <b>13:19:46 (2)</b> 381:13,22 <b>13:25.346 (1)</b> 248:6 <b>13:26 (8)</b>
---	--	---	---	---



305:20;306:7,20; 307:7,18;308:6; 309:13;378:4 13:26:14.679 (2) 381:13;392:14 13:26:24 (1) 305:1 13:26:25 (3) 248:6;381:18;404:9 13:26:25.346 (1) 379:15 13:26:25.379 (4) 334:16;338:17; 363:21;378:4 13:26:25.412 (1) 420:11 13:26:25.446 (1) 248:8 13:26:25.946 (1) 381:18 13:26:25.879 (1) 382:1 13:26:35.812 (1) 364:16 13:26:38.036 (1) 277:18 13:26:38.069 (1) 277:17 13:26:41.479 (1) 280:4 13:26:51 (1) 305:1 130 (4) 169:20;172:9,15; 201:7 1314-13 (1) 304:1 132 (1) 381:21 132624.712 (1) 238:12 13th (3) 14:18;130:3;213:9 14 (5) 102:9,10;189:7; 282:10;411:14 1480 (1) 220:11 14th (1) 146:20 15 (5) 102:3,9,10,15; 411:14 150 (4) 334:8;372:5;381:16; 382:3 15-month (2) 23:1,1 16 (9) 67:22;102:3,11,15; 184:17;239:13,14,16; 247:20 160 (3)	304:17;305:14; 308:12 17 (4) 102:4;393:22;394:5, 8 170 (6) 290:22;291:2; 304:16;305:13;306:14; 307:13 179 (1) 369:9 180 (2) 67:22;295:1 19 (4) 25:17;28:15;60:10; 247:20 190 (1) 297:17 192 (2) 380:7;381:21 1920 (20) 284:3;285:19;300:6; 303:6,20;304:2,19; 305:1,17;306:5,8,17; 307:5,15;308:3,15,19; 309:4,13;310:1 1980 (1) 11:15 1988 (7) 7:7,18;8:2,9,10,21; 18:12 1989 (5) 11:1;17:10,13;18:6; 25:22 1990 (2) 12:10,15 1991 (2) 12:21;13:10 1996 (1) 13:16 1997 (3) 14:9;32:7,8 1998 (8) 14:18;16:10;17:18; 18:6;19:21;24:11; 30:14,21 1B1 (1) 151:16 1st (1) 37:22	2,324 (3) 282:16,17,17 2,354 (1) 276:6 2,615-2,625/Theater (1) 422:13 2,778-2,866 (1) 422:14 2.88 (1) 284:16 2:26 (1) 313:8 2:37 (1) 313:9 20 (8) 10:15;20:12;97:5; 121:15;144:4,5; 386:14;388:7 200 (3) 298:2;299:4;300:1 2000 (15) 7:7,19;15:15;16:6, 11,17;20:21;21:19; 31:7;42:1;46:16; 204:14;257:22;259:2; 280:13 2001 (7) 31:8;32:9,22;34:8,9; 35:1,2 2002 (3) 15:19;16:4;33:19 2004 (3) 34:10;35:2;36:11 2005 (2) 36:11,15 2006 (7) 21:20,21;23:8;24:13; 36:12,16,17 2008 (12) 21:21;23:8;37:7,22; 38:3,13,16;40:14,20; 41:22;42:5;46:16 2009 (7) 40:20;41:22;42:19; 43:13,21;53:12;60:16 2010 (19) 38:13;40:17,22;42:2; 44:7;45:6;46:15,19,20; 50:3;52:3,13;53:6,9; 54:5,5,6,14;63:8 2012 (7) 54:12,15;55:20;60:8, 15;62:15;64:22 2013 (2) 62:8,17 2014 (6) 102:3,16;103:21; 130:3;213:9;294:18 20140113123020 (1) 204:19 20140113123038EXE (1) 205:2 20140113130012EXE (1)	204:11 20140113130456 (1) 205:9 20140113133419 (1) 204:13 20140113133615EXE (1) 204:15 2015 (8) 62:9,17,18;102:21; 103:21,22;146:17; 161:8 2016 (7) 63:16;102:14,22; 103:22;129:6;146:20; 197:22 2017 (1) 4:6 202 (6) 329:9;356:4;368:3,7; 369:11;372:7 2022 (1) 277:14 205 (1) 381:16 21.00255 (1) 284:18 210 (2) 297:2,9 21st (2) 129:6;146:16 22 (1) 15:19 222 (2) 277:12,18 2222 (4) 225:20;270:9,11; 277:15 2223 (1) 270:9 2224 (1) 270:10 223 (1) 277:13 224 (1) 277:13 23 (1) 370:4 23rd (1) 15:15 24 (3) 11:16;12:21;238:12 240 (8) 215:15,16,20,22; 216:5,18;332:3;352:22 24712 (1) 238:22 25 (12) 60:12;290:13,18; 294:11,22;297:1,8,16; 298:1;299:3,22;305:15 25.3 (1) 238:22 25.346 (1)	238:13 251 (1) 284:16 255 (3) 321:9;322:18;329:8 256 (1) 321:10 25th (5) 13:10;161:8;197:22; 290:12;314:4 26 (3) 4:6;236:13;304:1 2615 (9) 236:11,14,15; 237:10;240:6;247:20; 256:12,16;257:5 2616 (14) 226:4,7,8,11,18; 236:17,21;237:10,13; 239:12;240:5,9;248:5; 257:8 2619 (3) 246:16;247:20;248:7 2629 (1) 264:5 2644 (2) 267:3;268:19 2645 (1) 268:22 2646 (1) 268:22 2790 (8) 153:8,12;171:2; 175:11;200:22;202:1, 2;203:20 2791 (5) 155:10;172:7; 178:16;201:6;203:22 2792 (3) 157:12;183:11; 184:15 27th (1) 147:11 28 (2) 14:9;32:8 2801 (7) 4:8;270:19;272:6,7, 10,18;273:5 2803 (3) 272:1,6,18 2804 (3) 272:1,7,18 2823 (5) 272:20;273:6,7,8,18 2824 (2) 273:6,18 2825 (2) 273:6,19 2846 (3) 275:13,17;277:5 2847 (3) 275:13,17;277:6 29 (1)
---	--	--	---	--



182:6 29.97 (2) 178:1;182:6 29th (1) 8:10 2nd (1) 14:18	4 (3) 330:4;338:7,9 4:02 (1) 393:21 4:27 (1) 422:10 40 (3) 12:14,19,21 437 (2) 282:12,12 446 (2) 381:13,22 48 (3) 12:8,10;189:5 480 (1) 217:1 486 (1) 217:1 4K (2) 216:6;217:3	25:17;27:2 89 (1) 27:2 8-bit (1) 321:8 8th (2) 11:15;12:10		
3		9		
3 (21) 4:16;86:6;185:2; 233:20;314:13,16; 323:6;330:4,5;360:19, 20;361:5,16,17;370:18, 22;371:12;372:2; 374:7;378:22;413:5 3:19:46.446 (1) 413:8 3:26:14.679 (1) 413:8 3:55 (1) 393:20 30 (24) 18:14;60:12;132:8, 14;177:9,13;178:1; 182:6;285:19;300:6; 303:7,19;304:3,19; 305:16;306:5,16; 307:4,15;308:3,14; 309:4,13;310:1 300 (1) 257:22 3000 (3) 257:22;259:1;280:12 30-second (1) 204:14 30th (1) 146:17 32 (2) 185:1;220:9 320 (7) 215:16,20,22;216:5, 18;332:3;352:22 321.00255 (9) 285:4,17;297:9; 303:17;304:12;305:9; 308:11;309:9,20 3300th (1) 11:11 342 (1) 381:18 35 (1) 305:16 352 (1) 215:15 36 (1) 67:22 379 (1) 378:4	5 5 (2) 358:5,7 50 (1) 290:19 513 (1) 282:22 52 (1) 372:11 531 (1) 282:22 6 6 (3) 360:19,21;378:1 6th (2) 16:4;32:7 7 7 (4) 189:8;282:11;367:9, 12 71.00250 (1) 285:11 720 (1) 217:1 7th (1) 147:16 8 8 (4) 151:16;184:22; 220:8;368:17 8,897 (1) 189:8 8:22 (1) 4:6 88 (2)	9 (11) 370:20;371:1;378:9; 379:5,7,8,9;381:7; 403:15,16;404:1 90 (5) 27:2;28:15;38:1; 121:16;281:2 900 (1) 9:19 91 (1) 27:2 914 (2) 9:1,2 92 (2) 27:2,2 93 (3) 27:2,3,5 930 (1) 280:20 931 (3) 282:19,20,20 937 (1) 11:1 937.5 (1) 11:13 94 (3) 27:3,5,5 96 (6) 27:16;28:16,16;29:1; 30:19;32:15 97 (2) 31:19,22 98 (5) 29:1,2;30:19;31:8; 32:15		
4				