

1 UNITED STATES DISTRICT COURT
2 EASTERN DISTRICT OF MICHIGAN
3 SOUTHERN DIVISION
4

5 ROBERT JULIAN-BORCHAK WILLIAMS,
6 Plaintiff,

7 -vs- No: 21-10827

8 HON. LAURIE J. MICHELSON

9 CITY OF DETROIT, a municipal
10 corporation; DETROIT POLICE
11 CHIEF JAMES CRAIG, in his
12 official capacity; and
13 DETECTIVE DONALD BUSSA, in
14 his individual capacity,
15 Defendants.

16 _____/

17 Pages 1 - 70.

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19 The videotaped deposition of KRYSTAL HOWARD

20 taken via Hanson Virtual Remote

21 commencing at 9:59 a.m.

22 Tuesday, January 10, 2023,

23 before Ann L. Bacon CSR-1297.

24

25

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1 T A B L E O F C O N T E N T S

2

3 WITNESS PAGE

4 KRYSTAL HOWARD

5 Examination by Mr. Mayor 5

6 Examination by Mr. Cunningham 66

7

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11 E X H I B I T S

12 NUMBER PAGE

13 Deposition Exhibit No. 1 59

14 (Photograph)

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1 Hanson Virtual Remote
2 Tuesday, January 10, 2023
3 9:59 a.m.

4 - - -

5 COURT REPORTER: My name is Ann Bacon,
6 a Michigan State notary public and certified
7 shorthand reporter and this deposition is being
8 held via videoconferencing equipment. The
9 witness and reporter are not in the same room.
10 The witness will be sworn in remotely pursuant
11 to agreement of all parties. The parties
12 stipulate that the testimony is being given as
13 if the witness was sworn in person.

14 K R Y S T A L H O W A R D
15 was thereupon called as a witness herein, after
16 having been first duly sworn to tell the truth,
17 the whole truth, and nothing but the truth, was
18 examined and testified as follows:

19 MR. MAYOR: All right. Thank you,
20 Miss Bacon. We are here this morning for the
21 deposition of Krystal Howard. I'm Phil Mayor,
22 attorney for the Plaintiff, Robert Williams.

23 EXAMINATION

24 BY MR. MAYOR:

25 Q. And I just want to start out by acknowledging,

1 Miss Howard, that you and I know each other
2 outside the context of this deposition, correct?

3 **A. Correct.**

4 Q. And that's because I sit on an informal group
5 that you put together that discusses facial
6 recognition issues in Michigan with various law
7 enforcement officials and stake holders, right?

8 **A. That's correct.**

9 Q. Okay. But that group, at least since I have
10 been a member of it have not had any discussions
11 about the Williams case, correct?

12 **A. Correct.**

13 Q. Thank you. Have you been deposed before,
14 Miss Howard?

15 **A. I have, not related to facial recognition or
16 work, but yes, I have.**

17 Q. Okay. So I assume that means you're a little
18 familiar with the ground rules, but we'll go
19 over them anyways. Does that sound fair?

20 **A. Yes.**

21 Q. Great. So first is the most important thing in
22 a deposition is that you answer my questions
23 truthfully. Is that fair?

24 **A. Yes.**

25 Q. Okay. If I ask a question that you don't

1 understand, please let me know and I'll find a
2 different way to ask it. Is that fair?

3 **A. Yes.**

4 Q. And as you know, we have a court reporter here
5 today and she's taking down everything we say,
6 so that means you need to answer verbally, not
7 just nodding or saying mm-hmm or things like
8 that. Does that sound fair?

9 **A. Yes.**

10 Q. Okay. And if you need any breaks for any reason,
11 that's fine, just say so, but I will ask you to
12 finish answering the question that I've asked if
13 there's a question pending. Does that sound fair?

14 **A. Yes.**

15 Q. Okay. And I don't mean this in any disrespectful
16 way, but are you on any prescription medication
17 or any substance that would make it not possible
18 for you to answer truthfully and in a forthcoming
19 manner all of the questions that I have today?

20 **A. No.**

21 Q. Okay. Sorry, I forgot one of the ground rules
22 as well. It's possible that Mr. Root, your
23 attorney, may object to one of the questions I
24 ask or a few of the questions I ask. If he
25 does, he can make that objection, but then you

1 need to go ahead and answer the question anyhow
2 unless Mr. Root instructs you not to answer. Is
3 that fair?

4 **A. Yes, understood.**

5 Q. Okay. All right. You understand that we're here
6 today in connection with a facial recognition
7 search that was conducted in March of 2019
8 involving Mr. Robert Williams being returned as
9 an investigative lead, right?

10 **A. Yes.**

11 Q. So if during this deposition I refer to the
12 Williams search or the Williams case or the
13 Williams incident, you'll understand that I'm
14 referring to this case, to that facial recognition
15 search. Is that fair?

16 **A. Yes, correct.**

17 Q. Okay. Let me just ask before we jump in whether
18 you reviewed any documents or information before
19 today's deposition?

20 **A. Yes.**

21 Q. Okay. What did you review?

22 **A. I reviewed the request that we received during**
23 **that time frame from the Crime Intel Bureau or**
24 **DPD. I did go back to the facial recognition**
25 **search itself and took a look at that, and then**

1 I reviewed some of our information on the
2 algorithm versions and some of our software
3 items related to our algorithms that we used at
4 the time versus now.

5 Q. Excellent. Thank you. Okay. And with that
6 said, it makes sense I think to establish a
7 little bit about your background. Can you
8 please describe the positions -- well, who is
9 your current employer?

10 A. Sure. My current employer is Michigan State
11 Police, State of Michigan, so --

12 Q. And how long have you been with Michigan State
13 Police, or if I say MSP, you'll understand that
14 means Michigan State Police?

15 A. Correct, yes. I have been with MSP for 12 years.

16 Q. And what positions have you held in those 12
17 years with MSP?

18 A. Sure. I started as an admin and I worked my way
19 up to an analyst for the fingerprint side, so
20 before I worked in facial recognition, I dealt
21 with life scan machines, fingerprinting, criminal
22 histories and taking care of that side, and then
23 I moved over to facial recognition in 2018.

24 Q. Okay. And what position do you hold in facial
25 recognition at MSP?

1 A. So I started as a facial image examiner in 2018,
2 worked my way up to supervisor, and now I'm
3 still considered an examiner because of my
4 training, but I am a manager, so do you want an
5 explanation on what that is?

6 Q. Please. That would be great. That was my next
7 question.

8 A. Perfect. Okay. So as a manager, I oversee the
9 Statewide Network of Agency Photos or the SNAP
10 system in the SNAP unit, and the SNAP system is
11 our repository for all of our digital images for
12 arrests and copies of driver's license images.
13 I oversee that unit which has three people in it
14 and then I oversee, just for sake of being thorough,
15 I oversee our digital crime scene repository,
16 which is a program that MSP utilizes, our photo
17 lab, and then I oversee some troopers and
18 sergeants that conduct digital forensic evidence,
19 so audio-video processing and such.

20 Q. Okay. So how many employees do you supervise in
21 your role?

22 A. Total, I have 11.

23 Q. Okay. And of those 11, how many are involved in
24 facial recognition?

25 A. Three.

1 Q. Three?

2 **A. Yes. Well, including myself would be four, so**
3 **three employees and myself.**

4 Q. And what are the positions of those three
5 individuals that you supervise regarding facial
6 recognition?

7 **A. We have two examiner or two specialist examiners,**
8 **so their State of Michigan titles are Department**
9 **Specialist 13. Their I guess position description**
10 **titles are digital image examiners, so two of**
11 **those and then one digital image examiner**
12 **supervisor or manager.**

13 Q. And that's the position you previously held
14 before being promoted to manager?

15 **A. Correct.**

16 Q. Okay. And you mentioned a moment ago the SNAP
17 database. SNAP is an acronym, correct?

18 **A. Correct.**

19 Q. Can you state for the record what SNAP means?

20 **A. Yes, it's the Statewide Network of Agency Photos.**

21 Q. We'll come back to speak about that in a little
22 while. All right. Turning to facial recognition
23 technology that is used by MSP, what vendors or
24 companies does MSP contract with for facial
25 recognition services?

1 **A. We contract with DataWorks Plus for our software.**

2 Q. Okay. Is there anybody else that MSP contracts
3 with?

4 **A. Not for facial recognition. We don't -- our**
5 **algorithms have different vendors, but we do not**
6 **directly contract with them, just to be clear.**

7 Q. So to dig on that a little bit further, you said
8 that you contract with DataWorks Plus for facial
9 recognition software, correct?

10 **A. Correct.**

11 Q. And is it correct to say that DataWorks then
12 contracts with providers of algorithms that are
13 then used by MSP when you use DataWorks software?

14 **A. Yes, DataWorks is a data integrator is what**
15 **they're called, so they integrate with other**
16 **companies essentially, like you just stated.**

17 Q. And so just so it's clear, when you say they
18 integrate with other companies, they have some
19 kind of contract with providers of algorithms,
20 correct?

21 **A. Correct.**

22 Q. And when you as MSP contract with DataWorks, you
23 use DataWorks software, correct?

24 **A. Correct.**

25 Q. And when you use that software, that software

1 utilizes the algorithms that DataWorks contracts
2 with?

3 **A. Yes.**

4 Q. Okay. And are you aware of the algorithm, the
5 companies who provide algorithms that DataWorks
6 currently uses in its contract with MSP?

7 **A. Yes, and those are -- do you want what those are?**

8 Q. Can you hang on one moment?

9 MR. MAYOR: I see somebody is joining
10 the call. Is anybody here somebody expecting
11 somebody named Aimee Brimacombe?

12 MR. ROOT: Yes, she's with MSP.

13 MR. MAYOR: Okay. I'm sorry. Miss Bacon,
14 if you could read back that last question?

15 (Reporter reads back question.)

16 **A. And my response was yes.**

17 Q. (Continuing, by Mr. Mayor) And what are those
18 algorithms?

19 **A. Sure. We currently utilize Rank One Computing
20 algorithm and Cognitech computing algorithm.**

21 Q. And do you know which version of Rank One and
22 Cognitech are currently in use by MSP?

23 **A. Yes, Rank One is 1.24 and then Cognitech is 5.6.**

24 Q. Okay. And are those the same algorithms that
25 were being used -- let me back up. Was DataWorks

1 also the company with which MSP was contracting
2 in March of 2019 when the Williams facial
3 recognition search was conducted?

4 **A. Yes.**

5 Q. Okay. Was DataWorks at that time using the same
6 algorithms to your knowledge?

7 **A. They were using one of the same one, which was**
8 **Rank One and then they had a different one. We**
9 **had a different one in place of Cognitech at**
10 **that time.**

11 Q. And what was the one that you had at the time in
12 place of Cognitech?

13 **A. That was NEC.**

14 Q. Okay. And do you know which versions of Rank
15 One and Cognitech MSP was utilizing by way of
16 DataWorks Plus in March of 2019?

17 **A. So I do know the version of Rank One at that**
18 **time, not of NEC, so --**

19 Q. What was the version of Rank One?

20 **A. Sure. Thank you. Sorry. The version of Rank**
21 **One was 1.25 and 1.23. It was both.**

22 Q. So I want to make sure your testimony is clear.
23 I believe you testified a moment ago that MSP is
24 currently using version 1.24?

25 **A. Yes, that's correct.**

1 Q. But three years ago in 2019 MSP was using
2 versions 1.23 and 1.25?

3 A. So per our vendor, just to clarify, I believe
4 this was shared with you, but our vendor gave me
5 two different versions from February of 2019 and
6 indicated that due to different, like my
7 understanding is due to the difference in the
8 fact that there are multiple files and
9 configurations, items that change with an update
10 in their documentation, they showed two
11 different versions essentially at that time, so
12 I'm going off of what they provided to me.

13 Q. Okay. So are you able to determine which of
14 those versions was used in Mr. Williams' case,
15 whether it was 1.23 or 1.25?

16 A. I am not.

17 Q. And you said you were not aware of what version
18 of NEC was being used in March of 2019, correct?

19 A. Correct.

20 Q. Are you aware of roughly when NEC's algorithm
21 had last been updated in March of 2019 when it
22 was being utilized?

23 A. I'm not aware of the last time it was updated
24 because it was not updated frequently.

25 Q. Okay. And why, are you aware of why MSP switched

1 from relying on NEC to relying on Cognitech?

2 A. Yes, couple reasons. One was cost. The other
3 was that the Cognitech algorithm during the
4 facial recognition vendor testing was proving to
5 show better results than the antiquated NEC
6 algorithm that we were using at the time.

7 Q. Okay. When you say that cost was a factor, does
8 that mean that Cognitech was cheaper?

9 A. Yeah, to some degree for a newer algorithm it
10 was a better long-term cost, overall cost savings.

11 Q. And you said Cognitech was more accurate than
12 NEC, is that correct?

13 A. Correct.

14 Q. And when you say it was more accurate, what does
15 that mean?

16 A. It means that it can produce, in testing and
17 what the results were showing, it produces more
18 results, better galleries. NEC being antiquated
19 just didn't necessarily always have good
20 galleries or galleries at all. We might have an
21 image that we would run in NEC and we would get
22 no gallery return because it couldn't find
23 facial points potentially, where if we would run
24 that same image, the newer algorithm with
25 Cognitech would potentially return the gallery.

1 Q. Okay. And when you said that a gallery is
2 better or worse between Cognitech and NEC, what
3 makes a gallery better or worse?

4 **A. Maybe I should rephrase that. I guess just**
5 **returning a gallery versus not, not necessarily**
6 **a better or worse gallery.**

7 Q. So the primary way in which from your perspective
8 Cognitech was better is that it returned a
9 gallery more frequently?

10 **A. Yes, in addition to the vendor testing results,**
11 **which I don't have in front of me, so I can't**
12 **articulate, but there were percentages of overall**
13 **match rates that were higher in Cognitech, so I**
14 **don't have those in front of me, but that came**
15 **from an actual document tested by NIST.**

16 Q. And when you say NIST, what does NIST mean?

17 **A. The National Institute of Standards and Technology.**

18 Q. Okay. So am I understanding you correctly that
19 you're saying that Cognitech was performing
20 better at producing accurate results according
21 to NIST than Rank One -- than NEC was?

22 **A. Correct.**

23 Q. And you mentioned that NEC was antiquated. What
24 do you mean when you say that NEC was antiquated?

25 **A. We did not pay for continual updates of NEC's**

1 algorithm, so we had had it since 2001 I believe,
2 I'm going off my memory here, from the beginning,
3 and we did not pay to have algorithm updates for
4 their algorithm, so it was older. It hadn't --
5 we hadn't done version updates, and so back in
6 2001 it would have been tested then and that's
7 when we started using it, so it was old. It was
8 antiquated.

9 Q. So when Mr. Williams' facial recognition scan
10 was run in 2019, it was being run on an antiquated
11 algorithm?

12 A. One of them. Rank One was new.

13 Q. Okay. And you mentioned the term gallery a few
14 times. Can you please explain what you mean by
15 gallery?

16 A. Sure. A gallery is a series of images that gets
17 returned to us in a search of facial recognition,
18 so you would have a probe image, which is your
19 image being searched, your gallery are the
20 results of that search coming back.

21 Q. Okay. And we'll talk a little bit more about
22 those galleries in a moment. All right. In
23 2019 you mentioned that the NEC algorithm was
24 antiquated and had not been updated since
25 possibly 2001. The Rank One algorithm was

1 recently updated?

2 **A. Correct.**

3 Q. Do you know when it was updated?

4 **A. We actually just -- I think I wish -- sorry. I**
5 **probably should know these dates. It was before**
6 **my time. I believe we acquired Rank One newly**
7 **in 2018 and/or 2019, so right within that year**
8 **time frame we had just required Rank One as a**
9 **brand new algorithm, so it would have been new then.**

10 Q. And was Rank One automatically updating or did
11 you have to separately pay for and order an
12 update for Rank One?

13 **A. No, we paid for, when we purchased it, we paid**
14 **for something called an Evergreen model where**
15 **any time there's a version update with Rank One,**
16 **we automatically get that update.**

17 Q. Got it. Okay. I'd like to turn to the process
18 that MSP uses when conducting facial recognition
19 searches. First is it accurate that MSP
20 routinely conducts facial recognition searches
21 in response to requests from local police
22 departments and law enforcement agencies?

23 **A. Yes.**

24 Q. Okay. And when I refer to a facial recognition
25 search, I mean that an agency sends you a photo,

1 sends it to MSP and MSP does a facial recognition
2 analysis and either comes back with an
3 investigative lead or says that it was not able
4 to identify an investigative lead. Is that
5 accurate?

6 **A. Yes.**

7 Q. Okay. And so if I use the term facial recognition
8 search, you'll understand that I'm referring to
9 that process?

10 **A. Correct.**

11 Q. Okay. Could you please walk us through each step
12 in a facial recognition search from the moment
13 MSP is involved by a local law enforcement agency?

14 **A. Yes. So we receive an e-mail to a shared e-mail**
15 **box from a local law enforcement or an MSP**
16 **member and with that request we require a file**
17 **class or a complaint number to process their**
18 **request, so often times they'll have, not often**
19 **times, they'll have the file class and complaint**
20 **number and then a photo attached to that, what**
21 **they would like searched. With that we will**
22 **take the request and each examiner can take a**
23 **look at the request, make sure it has the**
24 **required information, and then they will take the**
25 **probe image, which is the image that was**

1 provided to us and if they, he or she, deem it
2 appropriate for facial recognition, they will
3 upload it to our facial recognition system and
4 the DataWorks software or a SNAP and with that
5 enter in the file class, the complaint number,
6 the person that requested it, and they enter all
7 that right into SNAP. They hit search and from
8 there they will receive their galleries back for
9 review. In addition to that process --

10 Q. Let me pause you there to ask a couple clarifying
11 questions and then we'll continue. So you said
12 that each examiner examines e-mails that come
13 in. Does that mean that both of your examiners
14 look at every e-mail that comes in or does it
15 mean that either examiner is qualified to look
16 at an e-mail that comes in?

17 A. Either. They both have access and it just
18 depends with the two and then the manager
19 depending on leave days, if somebody is off on
20 leave, the manager may step in to help, but they
21 kind of rotate days, so some days it might be
22 one person might have what we refer to as the
23 box, the next day might be the next examiner,
24 but there is just, you know, whoever is
25 available to grab the transaction per se.

1 Q. So is it accurate that only one person will be
2 the lead person who has grabbed it and is in
3 charge of doing the search?

4 A. Yes.

5 Q. Okay. And you said that the examiner will enter
6 the photo into the system if they deem it
7 appropriate. When you say if they deem it
8 appropriate, what does that mean?

9 A. So if the examiner opens the photo and can look,
10 can make a determination and feel confident that
11 that photo, if a gallery is returned, that they
12 can then conduct a morphological comparison. If
13 that examiner based on he or she's training does
14 not feel confident that that photo can be
15 conducted in a morphological comparison, then
16 they can choose not to run that photo.

17 Q. Okay. What standards does the examiner use in
18 making that assessment of whether or not they
19 can run a morphological comparison on the photo
20 against a gallery?

21 A. I guess some of the standards are just thinking
22 about the morphological comparison training that
23 we have and looking at the features of the face.
24 Can I see the eyes, the nose, the mouth, the
25 ears? Would I be confident in testifying to

1 what I see? And that's kind of our standard
2 here. Generally speaking, there are no set
3 standards for a probe image at this point in
4 time that I'm aware of.

5 Q. Okay. When you say moving forward, when you say
6 that after hitting search a gallery is returned,
7 is it one gallery that's returned or is it
8 multiple galleries that are returned?

9 A. There is a gallery for Rank One, there is a
10 gallery for Cognitech, which formerly was NEC,
11 and then there is an FBI gallery, so there is
12 243 images for Rank One, 243 images for
13 Cognitech and then 50 for the FBI gallery that
14 are generally returned in a search.

15 Q. Just so that the record is clear on this, when a
16 probe photo is run, when you say it runs across
17 an algorithm, that means that an algorithm that
18 is purchased by or that is borrowed, that is
19 licensed to DataWorks Plus, does an analysis to
20 compare the probe photo that you entered against
21 all the photos in a database, correct?

22 A. Correct.

23 Q. And when it returns a gallery, that means that
24 it is returning 243 or 50 photos that are possible
25 candidates that match that probe photo based on

1 the analysis done by the algorithm, correct?

2 **A. Correct.**

3 Q. Okay. And those three algorithms that return
4 three different galleries, are they communicating
5 with each other in any way or do they run it
6 independently?

7 **A. Not that I'm aware of. I believe they run
8 independently.**

9 Q. Okay. So picking back up then in the process
10 you were describing, so you've now received
11 three galleries, two of 243 photos and one of 50
12 photos. What happens next?

13 **A. So then that examiner will go through the
14 galleries and assess whether they feel there's a
15 viable candidate there, so they will look at the
16 probe image. They will look at each individual
17 image in a gallery and can do side-by-side
18 comparisons and different tools within there to
19 help with their assessments, but ultimately they
20 look through the galleries and determine if
21 there's a viable candidate. If there is not, then
22 that basically ends the request right there. We
23 will respond back to the requester indicating
24 we did not locate a viable candidate and it's
25 done there. If there is a viable candidate, then**

1 we will provide an investigative lead report.

2 Q. Okay. And you mentioned a morphological
3 comparison process. Is that what's happening at
4 this step?

5 A. Yes, yep. So if they pull up a viable candidate
6 and the probe and the examiner wants to look
7 side-by-side at those photos, they will then
8 walk through a morphological comparison process
9 and they will examine the eyes on each image,
10 the nose on each image, the mouth, the ears,
11 anything that they can see visible in the photos
12 and will compare those features.

13 Q. Are the items that are compared in the
14 morphological comparison that you just listed
15 the extent of the morphological comparison?

16 A. No, there are front like lines, lines, scars,
17 marks, tattoos, that can all be assessed if those
18 are visible, so frontal lines, lines in the
19 forehead, the hairline, the hair, ears, jawline,
20 neck. I'm trying to think, eyes, nose, ears,
21 mouth, hair. I think that's it, going off memory.

22 Q. So from your memory, everything that you just
23 listed are the items that are included in a
24 morphological comparison?

25 A. Correct.

1 Q. Is that morphological comparison recorded in any
2 way when it's conducted?

3 A. Yes, we have something called a supplemental report.

4 Q. What is a supplemental report?

5 A. The supplemental report documents each of those
6 features in what we saw, so, for example, if the
7 columella of the nose are similar on both
8 images, we will document that. If the upper
9 vermilion border or the upper lip shape is the
10 same, we will document that. So the supplemental
11 report goes through and you forensically document
12 the features that were similar or dissimilar.

13 Q. Is that supplemental report prepared for each of
14 the photos in the gallery?

15 A. No, only your investigative lead image.

16 Q. So a supplemental report would only be prepared
17 for one image after it has already been
18 identified as an investigative lead?

19 A. Correct.

20 Q. Okay. I'm going to skip a little bit out of
21 order. Was a supplemental report generated in
22 Mr. Williams' case?

23 A. Yes.

24 MR. MAYOR: Alex, I'm just going to --
25 I think that would be responsive to the Subpoena

1 we issued and I don't think we've seen that
2 supplemental report, so I would ask if you can
3 take a look and produce that, and I can put that
4 in writing later.

5 MR. ROOT: Okay.

6 Q. (Continuing, by Mr. Mayor) Okay. All right. So
7 what happens next?

8 A. So if a lead is generated, at that point we
9 would provide that lead back to the requester
10 via the original e-mail we received, so it's an
11 attachment and we provide that right back and
12 then at that point we log all of this information
13 into a database to make sure we keep all of our
14 attachments, the original requests or supplemental
15 report is done and put in there and we keep
16 everything.

17 Q. Between the examiner identifying that there is an
18 investigative lead and sending that investigative
19 lead to the law enforcement agency that
20 requested it, is there another step?

21 A. Yes, there is, Philip. Thank you. Sorry.

22 Q. What would be that other step?

23 A. Yes, that step that I missed is prior to sending
24 out that lead, we send our investigative lead
25 reports to the other examiners, so we do what's

1 called a peer review essentially. If it's a
2 driver's license image, then we need two responses
3 back to us or at least a supervisor to look at
4 that. If it's a mugshot, then at least one,
5 yes, back to us, so peer review, essentially we
6 send that lead out to our peers. They take a
7 look at it and say, yes, I agree with this, or
8 no, I do not agree with this. If there is a no,
9 then we don't send the lead. If everybody
10 agrees, then we can provide that lead to the
11 requester. I apologize.

12 Q. And in that review process is the entire gallery
13 sent to the other examiner or the supervisor or
14 is it just the image that has already been
15 identified as an investigative lead?

16 A. So it's just the investigative lead that's sent,
17 but the examiners have the ability to go in and
18 look at the search.

19 Q. Okay. And are they expected to go in and look
20 at the original search?

21 A. No.

22 Q. Okay. Is it common for them to go back and look
23 at the original search?

24 A. I want to say 50/50. I don't want to say -- I
25 guess I don't know how to answer that.

1 Q. Okay.

2 A. I'll say 50/50. Sometimes we do, sometimes we
3 don't.

4 Q. Okay. Is the second review by another examiner
5 or by a supervisor documented?

6 A. Yes. We have to in writing respond back and
7 say, yes, no. Maybe we, you know, ask I'm going
8 to go in and take a look at this a little bit
9 further, give me some time, or things like that.

10 Q. Okay.

11 A. I'm going to take a quick drink. Sorry.

12 Q. No problem. Is the amount of review that you
13 just described, so a second review by another
14 examiner or by the supervisor, is that what was
15 required in March of 2019 when Mr. Williams'
16 search was conducted?

17 A. Yes.

18 Q. I'm sorry. You have to give a verbal answer.

19 A. Oh, I did. Yes.

20 Q. Thank you. Okay.

21 A. Maybe it cut out.

22 Q. At least on my end it did. Thank you. Okay.
23 You mentioned that the examiner looks at several
24 aspects of the photograph to decide if it's
25 suitable, correct?

1 **A. Yes.**

2 Q. Okay. Would you agree that each of the
3 following factors bear on whether or not a photo
4 is suitable, the lighting?

5 **A. Yes.**

6 Q. And in particular whether it's dim or bright
7 lighting?

8 **A. Yes.**

9 Q. And a dimly lit photo would be less suitable?

10 **A. Depending on how dim, but yes.**

11 MR. CUNNINGHAM: Object to the form of
12 the question as a leading question.

13 Q. (Continuing, by Mr. Mayor) Would shadows on a
14 face bear on the suitability of a photo?

15 **A. It could, yes.**

16 Q. In what way?

17 **A. May make it difficult to see the features.**

18 Q. Is it accurate that a photo taken straight on, the
19 way I'm looking at the camera, is most accurate?

20 **A. Yes.**

21 Q. And photos taken from above or below or to the
22 side are less accurate?

23 MR. CUNNINGHAM: Objection to the form
24 of the question. It's a leading question.

25 Q. (Continuing, by Mr. Mayor) You can answer.

- 1 **A.** Yes, to some degree, yes.
- 2 **Q.** When you say to some degree, please clarify.
- 3 **A.** Sure. I think that if, in my work you have
- 4 multiple factors. So you could have a very
- 5 clear good photo with the head turned like
- 6 you're saying, but that's still a very good
- 7 photo. I can still see plenty of features and
- 8 still make a determination on that as an
- 9 examiner with my training. Now, you throw in
- 10 lighting, the head turned, multiple factors,
- 11 then it might pose as a more difficult image or
- 12 less quality, right, less quality.
- 13 **Q.** Okay. How about photos taken from above?
- 14 **A.** What about it? Rephrase the question or say the
- 15 whole question.
- 16 **Q.** How do photos taken from above affect the accuracy?
- 17 **A.** It can impact the accuracy by changing the shape
- 18 of the forehead, changing the shape of the face
- 19 and it can make the comparison more difficult.
- 20 **Q.** Would features like a hat or something else
- 21 including the face make a photo less accurate?
- 22 **A.** Yes.
- 23 **Q.** Okay. Would low pixel density make a photo less
- 24 accurate and identification less accurate?
- 25 **A.** Yes.

1 Q. Would all of those factors that we just discussed
2 also make an ultimate identification less likely
3 to be an accurate identification?

4 **A. Yes.**

5 Q. Okay. And that's something that your examiners
6 understand and know?

7 **A. Yes.**

8 Q. Okay.

9 MR. CUNNINGHAM: Object to the form of
10 that question. That's a leading question.

11 Q. (Continuing, by Mr. Mayor) You can answer. And
12 is that something that an investigator who gets
13 an investigative lead needs to take into account
14 as well?

15 **A. Yes.**

16 Q. Okay. They should understand that an
17 identification made on a less accurate photo is
18 less likely to be accurate?

19 **A. Yes.**

20 Q. Okay. Bear with me. Does the facial recognition
21 system itself, the algorithms or the DataWorks
22 program ever reject a photo as unsuitable?

23 **A. Yes.**

24 Q. Can you please explain how that happens?

25 **A. I cannot speak to the algorithm and why necessarily**

1 it's rejected. My overall thought on that is
2 that the quality of the probe would be too poor,
3 meaning they can't locate a face, they can't
4 locate points on the face, the algorithm cannot.

5 Q. So sometimes a photo is of suitably poor quality
6 that the system itself tells you it can't return
7 results?

8 A. Correct.

9 Q. Okay. Does MSP ever alter or pre-process a
10 probe photo before inputting it into the system?

11 A. Generally we try to run the probe image as is.
12 We do crop if we have to crop out additional
13 persons or things like that, but it's very
14 limited on our processing.

15 Q. Okay. And by crop, you mean to trim some
16 unnecessary content from the photo but not to
17 alter the photo in any other means?

18 A. Correct, correct, yeah, just zoom in maybe on
19 the subject or take out another person, crop out
20 information if needed.

21 Q. Okay. And I understand that you said MSP
22 generally does not alter the photos, but do you
23 have the capability to make alterations other
24 than cropping a probe photo before submitting it
25 into the facial recognition system?

1 A. Yes.

2 Q. Okay. Do you have the capability to adjust the
3 brightness of the photo?

4 A. Yes.

5 Q. Do you have the capability to adjust the face
6 angle to rotate the image?

7 A. No, I'm trying to -- photo shop, if the one
8 thing that I would explain is mirroring of
9 images that I know I've used in particular in
10 photo shop where if you have maybe a half of a
11 face, you can duplicate the other half of the
12 face potentially and so that could be utilized
13 at times. We used to have -- never mind. Go
14 ahead. I'll stop myself there. So yes, the
15 answer to your question is we do have abilities
16 to potentially not necessarily turn the image or
17 the face, but to potentially add on to the face
18 if needed or replicate the other half of the
19 face I guess is the better way to say that.

20 Q. So you, yourself, have altered a probe photo by
21 mirroring the face and inserting the second half
22 of the face that wasn't the actual image, but is
23 the mirror image of the half of the face you can
24 see?

25 A. Correct.

1 Q. Was that done with Mr. Williams' photo?

2 A. No.

3 Q. Are there any other ways of altering photos that
4 MSP has resorted to if you choose to use them?

5 A. Yes.

6 Q. What are the other ways of altering a photo that
7 you have at your disposal?

8 A. Sure. So at times, for example, if we have a
9 deceased individual that has a lot of trauma, we
10 can clean up that trauma. If it's blood, we'll
11 remove the blood and kind of blend in their skin
12 tone. We previously had a 3D rendering component
13 within DataWorks, but we no longer have that.

14 Q. What is the 3D rendering component or what was a
15 3D rendering component?

16 A. A 3D rendering component is similar to what I just
17 described in photo shop where you -- in photo
18 shop it's called mirroring and you just take the
19 other half. A 3D is similar. If you had a
20 45-degree angle of the person's face and
21 essentially it kind of replicates the other side
22 of the face and you have a wire frame model of
23 that face, so we can use that.

24 Q. Why did MSP stop using that function?

25 A. The algorithms are much better and it's no

1 longer required.

2 Q. Are there any rules or policies on when an
3 examiner can use any of the alteration functions
4 that you just described?

5 A. No. Our basic procedural best practice is run
6 the photo as is no matter what prior to making
7 any changes, but there are not rules on when an
8 examiner can use photo shop or lighting
9 enhancements or things like that.

10 Q. So you said the best practice is to run the
11 photo as is. Is that written down anywhere?

12 A. I don't recall.

13 Q. How are examiners made aware of that best practice?

14 A. During training, during training we're all
15 trained that way.

16 Q. Is the examiner, when conducting a facial
17 recognition search, told anything about the
18 crime that's under investigation?

19 A. No, just the crime type or file class.

20 Q. What does the crime type or file class mean?

21 A. So if it's a file class, it's 0900, which is a
22 homicide, or 2200 burglary, 2600 fraud, so we'll
23 get a number, a file class, and we have a file
24 class list that we would then reference for what
25 type of crime that is, or they will provide the

1 crime type and say homicide and we would then
2 have to look up that file class because that's
3 how we log our information, but that's the
4 extent of what we're informed.

5 Q. So the examiner does know the nature -- does
6 know the crimes that are alleged to have been
7 committed, right?

8 A. Yes. No details of it, just the crime itself.

9 Q. Got it. Okay. Do you understand the term
10 accuracy threshold or likelihood of threshold?

11 A. Yes.

12 Q. First of all, do you understand those terms to
13 mean anything different?

14 A. Different from?

15 Q. From each other.

16 A. Oh, likelihood and -- no, I'd say they're pretty
17 similar.

18 Q. What do you understand those two terms, accuracy
19 threshold and likelihood threshold to mean?

20 A. So basically a set number or a set point at
21 which a gallery will return or not return or at
22 which point maybe can be used in different I
23 guess points within our process, essentially if
24 we were using a threshold and likelihood, an
25 examiner could have a higher likelihood that

1 there's a viable candidate versus a lower
2 likelihood, but it's a scale essentially to say
3 when can a probe image return results or maybe
4 even a confidence scale in our process. That's
5 how we would use those things.

6 Q. Okay. Let's try to unpack a little bit more of
7 that. When you get back a gallery --

8 A. Mm-hmm.

9 Q. -- does it have any numbers or analysis next to
10 each photo?

11 A. Yes.

12 Q. Okay. What is the nature of that event number
13 that's next to each photo?

14 A. So in our gallery we have a number under each
15 image that is out of 1,000. It's a score out of
16 1,000. So let's say the very first image that
17 returned in a gallery was 990 out of 1,000.
18 That's indicating that the algorithm is saying
19 that this is a likely candidate, a high likely
20 candidate that's with the algorithm interpreted
21 as finding several facial points that were
22 similar, so there is the number one return and
23 then so on and so forth the numbers go on
24 throughout the gallery.

25 Q. So when you get back a gallery, in each photo

1 there is a number between one and 1,000 and the
2 closer to 1,000, the more that indicates that
3 the algorithm believes the match is correct?

4 **A. Correct.**

5 Q. Okay. And is that true for all three algorithms
6 and galleries you returned, same thing?

7 **A. I can speak to our two algorithms in Michigan,
8 yes. The FBI, I'm drawing a blank as to whether
9 there's numbers below there.**

10 Q. Okay. And so turning back to accuracy thresholds,
11 if -- strike that. When we talked about an
12 accuracy threshold a few moments ago, you said
13 there might be a threshold below which no photos
14 would return?

15 **A. Correct.**

16 Q. So explain, can you please explain what that
17 means in terms of the numbers on the 1-to-1,000
18 scale that we just discussed?

19 **A. So we don't have minimum thresholds set, so I can't
20 really speak to what the algorithms are set to
21 do. I think that would be better for our vendor.**

22 Q. Okay. So MSP does not in any way tell your
23 facial recognition system don't return results
24 below a certain threshold?

25 **A. Correct, we do not pick a number and tell our**

1 vendor to set it as this or anything like that.

2 Q. And no matter how accurate or not those rankings
3 are in a scale of one to 1,000, if your
4 algorithms return any results, they return 243
5 results, right?

6 A. Yes.

7 Q. No matter how good the 243rd result is?

8 A. Correct.

9 Q. Okay. Are you aware of whether or not your
10 algorithms change the accuracy threshold at
11 which they refuse to produce any photos in the
12 gallery based on the race or other
13 characteristics of the probe photo?

14 A. No.

15 Q. You're not aware of that?

16 A. I'm not aware, no.

17 Q. All right. And I think this was clear previously,
18 but just to be sure, when MSP runs a single FRT
19 search, you hit enter, the examiner hits enter,
20 it's essentially running three searches,
21 correct, one across the Rank One algorithm, one
22 across the NEC or now Cognitech algorithm, and
23 one across the FBI algorithm?

24 A. Yes, that's correct.

25 Q. And in terms of the database that is being used

1 in each, what database is being used on the
2 Rank One and NEC Cognitech algorithms?

3 **A. That would be our SNAP database, which is the**
4 **Statewide Network of Agency Photos. That is**
5 **consisting of our arrests from mugshots submitted**
6 **from agencies across the State of Michigan,**
7 **Michigan Department of Corrections parole or**
8 **probation photos that they submit to us as well,**
9 **and then a copy of the Michigan Department of**
10 **State or Secretary of State driver's license images.**

11 Q. Does it include other I.D. photos in addition to
12 driver's licenses?

13 **A. Yes, and identification cards as well from**
14 **Secretary of State.**

15 Q. Okay. And are there any other photos included
16 in the SNAP database?

17 **A. We have an applicant, very few applicants photos.**

18 Q. What's an applicant photo?

19 **A. An applicant photo is we have a vulnerable or**
20 **impaired person legislation out there where if**
21 **there was somebody who maybe has Alzheimer's or**
22 **autism and their guardian wants to register them**
23 **and sign a waiver, they can get fingerprinted**
24 **and photographed and submit them to our system,**
25 **so then if that person were to go missing or**

1 wander off, we could ultimately fingerprint or
2 photograph them on the side of the road, an
3 image could return and say I think this is
4 so-and-so and they're a vulnerable person, so
5 that's an applicant photo or reason we would
6 have an applicant photo.

7 Q. Okay. There has been media reporting of social
8 media photos being included in the SNAP database.
9 Are you aware of that reporting?

10 A. **Maybe in the past. It's been a while since I've**
11 **heard that, but yes.**

12 Q. Is that accurate? Are there social media photos
13 in the SNAP database?

14 A. **No.**

15 Q. How many photos are in the SNAP database?

16 A. **We have roughly 55,000,000.**

17 Q. Okay. How many were in the SNAP database in
18 March of 2019 when the Williams' facial
19 recognition scan was run?

20 A. **I can give you a guess, but I don't recall.**

21 Q. What is your estimate?

22 A. **Probably around 50,000,000.**

23 Q. Okay. And are you aware of whether or not the
24 photos in the SNAP database are all in the FBI's
25 database as well?

1 **A. Just our mugshots.**

2 Q. So mugshots that are included in the SNAP
3 database are included in the FBI database?

4 **A. Correct.**

5 Q. And that's because MSP shares those photos with
6 FBI for that database?

7 **A. Correct.**

8 Q. But driver's license photos are not in the FBI
9 database?

10 **A. Correct.**

11 Q. Applicant photos are not in the FBI database?

12 **A. Correct.**

13 Q. All right. You mentioned the accuracy scores on
14 a scale of one to 1,000 that are included beneath
15 each photo in at least the two state database
16 searches. How, if at all, do examiners use those?

17 **A. They don't. I mean our practice during our
18 training is to not look at those. It's to conduct
19 a morphological comparison and assess the faces.**

20 Q. Okay. When you say you don't use them, does that
21 mean they're blocked out or redacted in some way?

22 **A. No. We're just trained not to look at them.
23 I'm not saying that we can't look at them, but
24 we're trained to just not look at them for our
25 best practice.**

1 Q. But the numbers are written down immediately
2 below the photo?

3 **A. They are visible, yes.**

4 Q. And when you get back a gallery with 243 or 50
5 photos in it, do those photos appear in the
6 order that they are ranked on the 1-to-1,000 scale?

7 **A. Yes.**

8 Q. So if an examiner is looking at a gallery, they
9 know that the top ranked photo is the one that
10 they are looking at first?

11 **A. Yes.**

12 Q. And that the bottom ranked photo, the 243rd one
13 is the one that the algorithm ranked lowest?

14 **A. Yes.**

15 Q. And I believe you testified earlier that a
16 morphological comparison is not conducted for
17 each photo in the gallery, correct?

18 **A. Correct.**

19 Q. Only for one that an examiner has already
20 decided looks something like the person?

21 **A. Yes.**

22 Q. All right. Going back to the FBI database, do
23 you know what other photos are in the FBI
24 database other than the mugshots that Michigan
25 sends to the FBI?

1 A. There are other mugshots from other states as
2 well if they're a submitting state.

3 Q. Do you know if there's anything in that database
4 other than mugshots from various states?

5 A. I do not know.

6 Q. Okay. Can you maybe describe that a bit further?
7 So you've now got 243 photos. You've got a
8 probe photo. What process does an examiner go
9 through to even determine which ones they're
10 going to do a morphological comparison for?

11 A. They will essentially look at that first photo
12 there and then the probe image and they will,
13 like I said, there's an ability to pull them up
14 in a larger viewing window to do a side-by-side
15 comparison, so they're looking at them right
16 from the start to see I think they look similar.
17 I'm going to pull up and do a comparison and
18 they'll pull them up and do a comparison and that
19 could mean the first ten they do a comparison
20 on, you know, one, it just depends on them, on
21 that individual's training and what they see in
22 the photos.

23 Q. So when that individual gets to a photo they
24 think is the right one, they'll stop?

25 A. Correct.

1 Q. They will not review the remaining photos in the
2 gallery?

3 **A. They may.**

4 Q. But they're not required to?

5 **A. Correct.**

6 Q. Okay. Is it possible for somebody to have multiple
7 photographs of themselves in a database, whether
8 it's the SNAP database or the FBI database?

9 **A. Yes.**

10 Q. Okay. And does the system do anything to notify
11 an examiner that there are multiple photos of
12 the person in the database?

13 **A. No.**

14 Q. Okay. Did the examiner do anything to verify
15 whether or not there are other photos of
16 somebody in the database?

17 **A. Yes. We can click on linked images and it will
18 show every image of myself, for example, if I
19 have ten in there, it will show every image
20 that's in there.**

21 Q. And is that a required step that an examiner has
22 to follow?

23 **A. It is not required, no.**

24 Q. Okay. Turning back to the SNAP database, the
25 SNAP database contains both current driver's

1 licenses and old driver's licenses, correct?

2 **A. Yes.**

3 Q. Are old driver's license photos purged from the
4 database on any schedule or ever?

5 **A. No.**

6 Q. So facial recognition scans are being routinely
7 run against old driver's license photos?

8 MR. CUNNINGHAM: Object to the form of
9 the question. It's a leading question.

10 Q. (Continuing, by Mr. Mayor) You can answer.

11 **A. Yes.**

12 Q. All right. If a search comes back as having not
13 identified a suspect, so you don't identify an
14 investigative lead, does MSP do anything to retain
15 that information and turn it over to defense
16 lawyers of whoever is ultimately charged with
17 the crime?

18 **A. No.**

19 Q. Okay. If a search identifies an investigative
20 lead who is not ultimately arrested for the
21 crime, does MSP do anything to make sure that
22 that information is turned over to the defense
23 lawyer for whoever is arrested for the crime?

24 **A. No.**

25 Q. Turning back to the galleries, we discussed how

1 the top ranked according to the algorithm photo
2 appears at the top. How often in your
3 experience would you say that that top ranked
4 photo is the investigative lead that is turned
5 back to law enforcement?

6 **A. We don't have a set number. I don't know.**

7 Q. Okay. That's fine. Under what circumstances
8 would an examiner determine that there's not
9 sufficient basis to return an investigative lead?

10 **A. Will you repeat that?**

11 Q. Yes. Under what circumstances would an examiner
12 determine that there is not sufficient basis to
13 return an investigative lead?

14 **A. Under what circumstances? It's subjective. That**
15 **examiner has to feel, as I mentioned before,**
16 **confident in their ability to testify in what**
17 **they see in comparing those photos, so if they**
18 **don't feel that they have enough similarities in**
19 **the morphological comparison process and they**
20 **can't feel confident in testifying, then they**
21 **won't provide a lead.**

22 Q. Okay. Would you ever turn back multiple photos
23 as potential investigative leads?

24 **A. No.**

25 Q. Okay. And why not?

1 **A.** Just not our practice. We haven't -- we don't --
2 it's either there's one viable candidate or none
3 and, again, we have to feel confident we're not
4 providing a gallery for other people out in the
5 field to then try to make a determination on.
6 We're trained. We should be the ones providing
7 that investigative lead.

8 **Q.** But in making the determination of whether or
9 not there is only one viable candidate, there is
10 no review of every single -- there is not a
11 requirement to review every single photo in the
12 gallery?

13 **A.** **No.**

14 **Q.** I'd like to turn to MSP's interactions with the
15 Detroit Police Department. You understand that
16 if I say DPD, I mean the Detroit Police Department?

17 **A.** **Yes.**

18 **Q.** Okay. How often does DPD make facial recognition
19 search requests to MSP?

20 **A.** **I don't have exact numbers, but weekly.**

21 **Q.** Does that mean multiple requests weekly or one
22 request per week roughly?

23 **A.** **I'd say multiple per week.**

24 **Q.** Multiple per week. Okay. And was that the same
25 in March of 2019 when the Williams' facial

1 recognition search was conducted?

2 **A. Yes.**

3 Q. Okay. Do you know -- you're aware that DPD has
4 its own, performs its own facial recognition
5 searches, right?

6 **A. Yes.**

7 Q. Do you know why DPD comes to MSP for facial
8 recognition searches rather than doing them
9 themselves?

10 **A. I believe it is because we have access to the**
11 **SOS driver's licenses.**

12 Q. Meaning because driver's license photos are
13 included in the SNAP database?

14 **A. Correct, for MSP only.**

15 Q. And it's your understanding that DPD does not
16 have access to those same photographs in its
17 database?

18 **A. Correct.**

19 Q. Has MSP provided any training to the Detroit
20 Police Department or Detroit Police DPD officers
21 on the use of facial recognition technology?

22 **A. Yes.**

23 Q. What trainings has MSP provided?

24 **A. I would like to clarify that though when I say**
25 **yes. We specifically train the Crime Intel**

1 Bureau, which is not to my knowledge DPD officers.

2 Q. Okay. But MSP does provide trainings to DPD's
3 Crime Intel branch?

4 A. Yes.

5 Q. Is that training purely oral or are there
6 written materials that accompany that training?

7 A. Oral, oral presentation for the most part, yeah.

8 Q. There is no documents that are provided to
9 people who are being trained?

10 A. We would provide them with our policy. I was
11 trying to think if we had any curriculum type
12 stuff, but it's a power point and probably our
13 policy and that's probably the extent of what we
14 would give them I guess, the paperwork.

15 Q. Is that power point provided to DPD?

16 A. I don't know. I can't recall if we have sent
17 that to them or not.

18 Q. How often are these trainings provided?

19 A. I'm trying to think. I don't provide them, so I
20 don't know exactly how often.

21 Q. Who does provide them?

22 A. The SNAP unit, so somebody within the SNAP unit,
23 either an examiner or the manager has done them
24 in the past.

25 Q. So that means one of the three facial recognition

1 people that you supervise provides those trainings?

2 **A. Yes.**

3 Q. Do you know if those trainings are being provided
4 to DPD's Crime Intel unit in 2019, in March of
5 2019?

6 **A. I don't know.**

7 Q. And I believe you testified that DPD, you do not
8 provide any training to DPD's investigators?

9 **A. Correct.**

10 Q. And they have not requested that you provide any
11 training to their investigators?

12 **A. Correct.**

13 Q. Are you familiar with the facial recognition
14 technology being used by DPD?

15 **A. No.**

16 Q. So you don't know what vendors or what
17 algorithms they are using?

18 **A. I do know that they use DataWorks as a vendor.
19 I'm not 100 percent certain of their algorithms.**

20 Q. It would be possible to use DataWorks, but they
21 contract with DataWorks to use different
22 algorithms than the ones you use?

23 **A. Yes.**

24 Q. And how is it that you're aware that they use
25 DataWorks?

- 1 **A. Just in talking to them over the years.**
- 2 Q. Okay. When you say talking to them, does that
3 mean -- I'm sorry.
- 4 **A. It's okay. Sorry.**
- 5 Q. When you say talking to them, does that mean
6 talking to members of their Crime Intel division?
- 7 **A. Correct, yes.**
- 8 Q. Does MSP receive any training on facial
9 recognition from DataWorks or from any of the
10 algorithm providers that you utilize?
- 11 **A. No.**
- 12 Q. Does MSP receive training on facial recognition
13 technology from anyone else?
- 14 **A. Yes.**
- 15 Q. Who provides training to MSP on facial
16 recognition technology?
- 17 **A. Yes, we are all required to go to a company called**
18 **Ideal Innovations, Incorporated and then we also**
19 **all attend the FBI facial identification training.**
- 20 Q. Okay. So that's two different trainings, an FBI
21 training and an Ideal Innovations training?
- 22 **A. Yes.**
- 23 Q. And MSP requires to you go to the Ideal Innovations
24 training?
- 25 **A. Requires us to go to both.**

1 Q. Right. Are you aware of whether or not DPD
2 requires Ideal or whether or not Ideal
3 Innovations trains DPD Crime Intel division?

4 **A. I don't know.**

5 Q. Okay. Do you believe the training from Ideal
6 Innovations is valuable in your work?

7 **A. Yes.**

8 Q. Does it help you to make accurate identifications?

9 **A. Yes.**

10 Q. You've described a morphological comparison
11 process that MSP undertakes. Is that something
12 you received training on as well?

13 **A. Yes.**

14 Q. Who provides that training?

15 **A. That is part of the training from Ideal
16 Innovations and the FBI.**

17 Q. Okay. And what does that training consist of?

18 **A. The training with Ideal Innovations consists of
19 going over that morphological comparison process,
20 actually comparing and discussing various photos
21 related to age progression, twins, just a series
22 of photos, so you spend lengthy hours learning
23 and reviewing and discussing from somebody who's
24 been doing it for years and then your peers. In
25 addition to that, we talk about the skeletal**

1 structure, the muscular structure, some of the
2 -- you're asking me to go back here, Philip.
3 The other things that we touch on, cosmetic
4 surgery and ways that the facial features are
5 stable or not stable as we age and as we're
6 younger, things like that. That's Ideal
7 Innovations covers that. The FBI is similar,
8 but I would say maybe a little less focus on the
9 extensive cosmetics, muscular, skeletal. It's
10 more the morphological comparison. You do more
11 side-by-side comparisons and discuss them and
12 learn more of the forensic terms and just kind
13 of reiterating what Ideal Innovations went over.

14 Q. Okay. Does MSP do anything to verify or assess
15 the accuracy of the investigative leads it
16 provides?

17 A. Will you repeat that?

18 Q. Sure. Does MSP do anything to verify whether or
19 not the investigative leads that it provides
20 turned out to be accurate?

21 A. Yes. So everybody that provides leads attempts
22 to follow-up, if I'm understanding your question
23 correctly, follow-up with the requester, so
24 you're asking if we go back out and try to
25 determine if our lead was successful or utilized

1 or turned out to be the actual person, correct?

2 Q. Correct.

3 A. So, yeah, we try to wait a certain amount of
4 time, maybe a month or two months. We obviously
5 need those statistics, but we try to go back out
6 and reach out and ask them was our lead
7 successful. Did it help either exonerate,
8 exclude or that type of thing, or did it help
9 you successfully identify the subject, and a lot
10 of times we'll receive nothing back and sometimes
11 we get information back, it just depends, and
12 then we actually track that in our database.

13 Q. Okay. You said you track that in your database.
14 That means that you're in some way logging the
15 responses that you receive to these inquiries
16 that ask whether or not your investigative lead
17 was helpful?

18 A. So we track yes or no if they indicate that it
19 was successful or not.

20 Q. Are you aware of approximately what percentage
21 of the time investigative leads are currently
22 proving helpful?

23 A. I am not off the top of my head, no, not aware.

24 Q. But that would be in the database you've just
25 described?

1 **A. Yes.**

2 Q. Do you know if that rate of accuracy has
3 increased between 2019 and today?

4 **A. I'm not aware.**

5 Q. And do you know what the accuracy rate was in 2019?

6 **A. So I want to also state this. I have to
7 double-check on when we weren't always asking
8 the success, so I'd have to know when we did and
9 I think it might have been after 2019 on the
10 success, just to make sure that is noted. That
11 was something kind of new that we started doing
12 to implement tracking our success rate.**

13 Q. Got it. So from whatever time MSP started this
14 process, which may be after 2019, there would be
15 some kind of follow-up e-mail sent by an MSP
16 analyst to a law enforcement agency asking how
17 helpful the investigative lead proved?

18 **A. Yes.**

19 Q. And that would include communications to DPD for
20 any searches conducted after this policy was
21 adopted?

22 **A. Yes.**

23 Q. Okay. Excuse me for a second. I dropped my
24 pen. All right. I'd like to turn to Mr. Williams'
25 case, the reason that we're here today,

1 Miss Howard. You testified earlier that you
2 went back and reviewed some of the documents
3 relating to that search, correct?

4 **A. Yes.**

5 Q. And I understand that you were not the examiner
6 who performed that examination. That was
7 Miss Coulson and we'll be speaking to her later
8 today, correct?

9 **A. Yes.**

10 Q. But you are familiar with the search, having
11 reviewed some of the documents?

12 **A. Yes.**

13 Q. And serving as manager of the unit?

14 **A. Yes.**

15 Q. Okay. All right. So I want to walk through
16 each of the steps you described in a facial
17 recognition search to see how they played out in
18 Mr. Williams' case. So first MSP received the
19 photo, correct?

20 **A. Yes.**

21 Q. And you assigned it or it was automatically
22 assigned to Miss Coulson, correct?

23 **A. Yes.**

24 Q. Was any alteration done to the photo before it
25 was entered into the system?

1 **A. The photo that was searched was cropped.**

2 Q. Okay. Was there any alteration other than
3 cropping of the photo?

4 **A. No, not that I'm aware of.**

5 Q. Okay. I am going to share my screen here to
6 show you what we're going to label as Exhibit 1,
7 Miss Howard.

8 (Marked Exhibit No. 1.)

9 Q. (Continuing, by Mr. Mayor) Can you see an image
10 on the screen?

11 **A. Yes.**

12 MR. MAYOR: Okay. We'll label this as
13 Exhibit 1 and, Patrick and Alex, for your
14 purposes, I will e-mail this to the court
15 reporter after the deposition and I'll copy you.

16 Q. (Continuing, by Mr. Mayor) Do you recognize this
17 image, Miss Howard?

18 **A. Yes.**

19 Q. And what is it?

20 **A. It appears to be the image that we searched for**
21 **facial recognition.**

22 Q. And is that the cropped image? Is that the
23 image that MSP cropped?

24 **A. Yes.**

25 Q. Thank you. Let me just stop sharing a minute.

1 Okay. All right. So that image is the one that
2 was run through the facial recognition system,
3 correct?

4 **A. Yes.**

5 Q. What results came back?

6 **A. A gallery with Rank One Computing returned.**

7 Q. Okay.

8 **A. And also with Cognitech. I'm sorry, with NEC at
9 that time, NEC.**

10 Q. Okay. So you got a 243 photo gallery from
11 Cognitech -- sorry, from NEC?

12 **A. No, NEC.**

13 Q. And a 243 photo gallery from Rank One?

14 **A. Yes.**

15 Q. Did you get a gallery back from the FBI algorithm?

16 **A. No.**

17 Q. Do you know why you didn't get back a gallery
18 from the FBI algorithm?

19 **A. No.**

20 Q. Did MSP take any steps to inquire further why no
21 gallery was returned from the FBI algorithm?

22 **A. No.**

23 Q. How did or did Mr. Williams appear in either of
24 the two galleries that did return?

25 **A. Yes.**

1 Q. Which galleries did he appear in?

2 **A. Mr. Williams returned in the Rank One Computing**
3 **gallery.**

4 Q. Did he return in the NEC gallery?

5 **A. No.**

6 Q. So the NEC gallery turned back the 243 pictures
7 it believed was mostly matched and Mr. Williams
8 did not appear in any of them?

9 **A. Correct.**

10 Q. Okay. In the Rank One gallery, where did
11 Mr. Williams appear in between the most likely
12 and the 243rd most likely?

13 **A. He returned in the ninth position.**

14 Q. Okay. Is it accurate that NEC and Rank One were
15 using the same database in conducting their
16 analyses?

17 **A. Rank One and NEC, yes.**

18 Q. So they were all looking at the same photos?

19 **A. Correct.**

20 Q. All right. How was Mr. Williams identified as
21 an investigative lead based on what was returned
22 in the galleries?

23 **A. I can't speak to that.**

24 Q. Okay. Is that because I should be asking
25 Miss Coulson?

1 A. Correct, yes.

2 Q. This is going back a little ways, but you
3 mentioned that the FBI algorithm did not return
4 any candidates. Do you know if the FBI's
5 algorithm has any human involvement before results
6 are returned or does it work automatically the
7 same as Rank One and NEC or Cognitech?

8 A. I don't know.

9 Q. Okay. How long does it take for results to come
10 back when you hit enter and run a search?

11 A. For our algorithms, generally speaking, it's
12 within seconds. The FBI can be, it varies.

13 Q. What does it vary when you say it varies?

14 A. It could be seconds or minutes, I mean it just
15 depends.

16 Q. Okay. Seconds or minutes, but less than half an
17 hour?

18 A. Yes.

19 Q. Less than ten minutes?

20 A. Yes, generally speaking, yes, unless there was
21 some system issue, yes.

22 Q. Okay. Was the picture of Mr. Williams that
23 ranked ninth in the Rank One algorithm his
24 current driver's license?

25 A. I don't recall what year his driver's license

1 photo was.

2 Q. But his current driver's license photo would
3 have been contained in the SNAP database, correct?

4 A. **As long as it was prior to March 2019, yes.**

5 Q. Okay. Yeah, I mean the driver's license that
6 was current in March of 2019?

7 A. **Yes.**

8 Q. And it is also the case that any prior driver's
9 licenses he had, driver's license photos he had
10 would have been included in the SNAP database?

11 A. **Yes.**

12 Q. But you are sitting here today not sure if it was
13 his then current driver's license that showed up
14 as ninth or an expired one that turned up as ninth?

15 A. **Correct.**

16 Q. Do you know if they both turned up in the gallery?

17 A. **I don't believe so.**

18 Q. You don't believe that both turned up?

19 A. **No, it was just one image.**

20 Q. So there were multiple images of Mr. Williams in
21 the database, but only one of them turned up in
22 the Rank One analysis?

23 A. **I believe so.**

24 Q. Okay. And your analysts to your knowledge, and
25 we'll obviously ask Miss Coulson as well, did

1 not do anything with that fact that there were
2 photos of Mr. Williams in the database that did
3 not turn up?

4 **A. No.**

5 Q. And I believe you testified earlier that MSP
6 doesn't have a protocol requiring a comparison
7 of photos that exist in the database, but that
8 do not turn up in the gallery?

9 **A. Correct.**

10 Q. When you sent the investigative -- when MSP
11 sends a lead back to a law enforcement agency,
12 do they have a way of determining whether or not
13 the match that they are sent is a current or
14 expired driver's license?

15 **A. I can't speak to what they will or will not do
16 or what they have access to.**

17 Q. So you don't know if a local law enforcement
18 department has an ability to see if a photo is
19 somebody's current driver's license photo?

20 **A. I would assume that they do, yes.**

21 Q. But you don't know?

22 **A. But I don't know for sure what they have access
23 to or use.**

24 Q. Okay. Was any supervisor involved in the Williams
25 search?

1 A. Yes.

2 Q. And who was that?

3 A. That was Miss Angela Yankowski, who was the
4 supervisor at that time.

5 Q. And what would her involvement as supervisor
6 have consisted of in this case, or what did it
7 consist of in this case?

8 A. She provided the peer review.

9 Q. And when you say the peer review, that means she
10 was provided with the investigative lead that
11 Miss Coulson had determined -- sorry, strike that.
12 That was a terrible question. In conducting the
13 peer review, what would Miss Yankowski, what was
14 she given?

15 A. She was given the investigative lead report from
16 Miss Coulson.

17 Q. And that investigative lead report showed the
18 picture of Mr. Williams that was turned up as
19 the ninth match in Rank One and the probe photo?

20 A. Yes.

21 Q. She was not given the entire galleries or asked
22 to review the entire galleries?

23 A. I don't believe so, no.

24 Q. Did she review the entire galleries to your
25 knowledge?

1 **A.** **I don't know.**

2 Q. Okay. Give me just a moment please while I
3 confer with my colleague here.

4 (Off the record.)

5 MR. MAYOR: All right. I don't think
6 we have anything further for you at this time,
7 Miss Howard. Mr. Cunningham or Mr. Root might
8 have a few questions for you.

9 EXAMINATION

10 BY MR. CUNNINGHAM:

11 Q. I have a few, Miss Howard. Patrick Cunningham
12 from City of Detroit Law Department. I just
13 have a few questions.

14 **A.** **Okay.**

15 Q. So I guess in this case the probe image of
16 Mr. Williams in this case, Michigan State Police
17 deemed that photo appropriate for facial
18 recognition technology, right?

19 **A.** **Yes.**

20 Q. And an analyst from Michigan State Police returned
21 an investigative lead based on the probe
22 photograph, right?

23 **A.** **Yes.**

24 Q. And that investigative lead was reviewed by a
25 supervisor, right?

1 A. Yes.

2 Q. And the supervisor concurred in the investigative
3 lead, right?

4 A. Yes.

5 Q. And just a couple of clarifying questions. When
6 you were talking about morphological comparison,
7 one of the things you talked about was lines.
8 Could you tell me what you meant by lines when
9 you're talking about a morphological comparison?

10 A. Sure, lines are wrinkles. There's something
11 called frontal lines, the lines on my forehead
12 right here around your eyes, those are identifying
13 marks, so those can be evaluated similar to your
14 eyes, your nose, your ears, your mouth to determine
15 if one image versus another image has those same
16 lines or marks.

17 Q. Okay. Thank you.

18 A. Yes.

19 Q. And I think you said that MSP may use, may zoom
20 in on a photograph during the course of
21 preparing a probe image. Is that correct?

22 A. We may crop an image or, yeah, which allows us
23 to kind of take out other information in the
24 photo other than the subject itself.

25 Q. Okay. And does that process involve zooming in?

1 **A.** It could kind of resize the photo in photo shop
2 potentially where it could zoom in on just maybe
3 the face or certain aspects of the image.

4 **Q.** Okay. So I got what you're saying, and I think
5 that's right. It's not actually zooming in, but
6 it is resizing the image just based on what you
7 cropped out?

8 **A.** **Right.**

9 **Q.** Not like if you were taking a photo, you zoom in
10 on the subject, nothing like that.

11 **A.** **Gotcha.**

12 **Q.** And I'm sorry, okay. In the Williams case when
13 the probe image was submitted to the database,
14 or I guess two of the databases returned a
15 gallery, right?

16 **A.** **Yes.**

17 **Q.** And both of those databases could have returned
18 no gallery, right?

19 **A.** **Correct.**

20 MR. CUNNINGHAM: That's it. Those are
21 all the questions I have. Thank you.

22 **A.** **Thank you.**

23 MR. ROOT: I'm all set from my end.
24 Thank you.

25 MR. MAYOR: Just give me one moment to

1 confer with my colleague again and if we have
2 nothing further, we should be done.

3 (Off the record.)

4 MR. MAYOR: All right. Miss Howard,
5 thank you very much for your time this morning
6 and I think that's all we need from you this
7 morning. Thank you again for your time.

8 MR. CUNNINGHAM: Thank you very much.

9 **A. Thank you everybody. Take care.**

10 (Deposition concluded at 11:22 a.m.)

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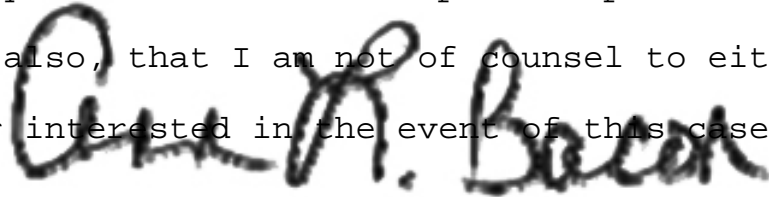
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1 STATE OF MICHIGAN)
)
2 COUNTY OF MACOMB)

3 I, Ann L. Bacon, a Notary Public in and for
4 the above county and state, do hereby certify
5 that the witness, whose attached deposition was
6 taken before me in the entitled cause on the
7 date, time and place hereinbefore set forth, was
8 first duly sworn to testify to the truth, and
9 nothing but the truth; that the testimony
10 contained in said deposition was reduced to
11 writing in the presence of said witness by means
12 of stenography; that said testimony was
13 thereafter reduced to written form by mechanical
14 means; and that the deposition is, to the best
15 of my knowledge and belief, a true and correct
16 transcript of my stenographic notes so taken.

17 I further certify that the signature to and
18 the reading of the deposition by the witness was
19 waived by counsel for the respective parties
20 hereto; also, that I am not of counsel to either
21 party or interested in the event of this case.



22
23 Ann L. Bacon, Notary Public, Macomb County
24 Acting in Macomb County

25 My commission expires: 6/29/23

0

0900 36:21

1

1 59:6,8,13
1,000 38:15,16,17 39:1,2 40:3 43:14
1-to-1,000 39:17 44:6
1.23 14:21 15:2,15
1.24 13:23 14:24
1.25 14:21 15:2,15
10 5:2
100 52:19
11 10:22,23
11:22 69:10
12 9:15,16
13 11:9

2

2001 18:1,6,25
2018 9:23 10:1 19:7
2019 8:7 14:2,16 15:1,5,18,21 18:10,23 19:7 29:15 42:18 49:25 52:4,5 57:3,5,9,14 63:4,6
2023 5:2
2200 36:22
243 23:12,24 24:11 40:4 44:4 45:7 60:10,13 61:6
243rd 40:7 44:12 61:12
2600 36:22

3

3D 35:12,14,15,16,19

4

45-degree 35:20

5

5.6 13:23
50 23:13,24 24:11 44:4
50,000,000 42:22
50/50 28:24 29:2
55,000,000 42:16

9

990 38:17
9:59 5:3

A

a.m. 5:3 69:10
abilities 34:15
ability 28:17 45:13 48:16 64:18
access 21:17 50:10,16 64:16,22
accompany 51:6
account 32:13
accuracy 31:16,17 37:10,18 39:10,12 40:10 43:13 55:15 57:2,5
accurate 16:11,14 17:20 19:19 20:5 22:1 30:18,19,22 31:21,24 32:3,17,18 40:2 42:12 54:8 55:20 61:14
acknowledging 5:25
acquired 19:6
acronym 11:17
actual 17:15 34:22 56:1
add 34:17

addition 17:10 21:9 41:11 54:25
additional 33:12
adjust 34:2,5
admin 9:18
adopted 57:21
affect 31:16
age 54:21 55:5
agencies 19:22 41:6
agency 10:9 11:20 19:25 20:13 27:19 41:4 57:16 64:11
agree 28:7,8 30:2
agreement 5:11
agrees 28:10
ahead 8:1 34:14
Aimee 13:11
Alex 26:24 59:13
algorithm 9:2 13:4,20 15:20 16:3,6,9,24 18:1,3,4,11,23,25 19:9 23:17 24:1 32:25 33:4 38:18,20 39:3 40:21,22,23 44:13 48:1 53:10 60:15,18,21 62:3,5,23
algorithms 9:3 12:5,12,19 13:1,5,18,24 14:6 24:3 32:21 35:25 39:5,7,20 40:4,10 41:2 52:17,19,22 62:11
alleged 37:6
alter 33:9,17,22
alteration 36:3 58:24 59:2
alterations 33:23
altered 34:20
altering 35:3,6
Alzheimer's 41:21
amount 29:12 56:3
analyses 61:16
analysis 20:2 23:19 24:1 38:9 63:22

analyst 9:19 57:16 66:20
analysts 63:24
and/or 19:7
Angela 65:3
angle 34:6 35:20
Ann 5:5
answering 7:12
antiquated 16:5,18 17:23,24
18:8,10,24
apologize 28:11
appears 48:2 59:20
applicant 41:17,18,19 42:5,6
43:11
applicants 41:17
approximately 56:20
arrested 47:20,23
arrests 10:12 41:5
articulate 17:12
aspects 29:24 68:3
assess 24:14 43:19 55:14
assessed 25:17
assessment 22:18
assessments 24:19
assigned 58:21,22
assume 6:17 64:20
attached 20:20
attachment 27:11
attachments 27:14
attempts 55:21
attend 53:19
attorney 5:22 7:23
audio-video 10:19
autism 41:22
automatically 19:10,16 58:21
62:6

aware 13:4 15:17,20,23,25
23:4 24:7 36:13 40:9,15,16
42:9,23 50:3 52:24 54:1
56:20,23 57:4 59:4

B

back 8:24 11:21 13:14,15,25
18:5,20 20:2 21:8 24:9,23
27:9,11 28:3,5,22 29:6 38:7,
25 39:10 44:4,22 46:24 47:12,
25 48:5,22 55:2,24 56:5,10,11
58:2 60:5,15,17 61:6 62:2,10
64:11

background 9:7

Bacon 5:5,20 13:13

based 22:13 23:25 40:12
61:21 66:21 68:6

basic 36:5

basically 24:22 37:20

basis 48:9,12

bear 30:3,14 32:20

beginning 18:2

believed 61:7

believes 39:3

beneath 43:14

bit 9:7 12:7 18:21 26:20 29:8
38:6 45:6

blank 39:8

blend 35:11

blocked 43:21

blood 35:10,11

border 26:9

borrowed 23:18

bottom 44:12

box 20:15 21:23

branch 51:3

brand 19:9

breaks 7:10

bright 30:6

brightness 34:3

Brimacombe 13:11

Bureau 8:23 51:1

burglary 36:22

C

call 13:10

called 5:15 12:15 19:14 26:3
28:1 35:18 53:17 67:11

camera 30:19

candidate 24:15,21,24,25 25:5
38:1,19,20 49:2,9

candidates 23:25 62:4

capability 33:23 34:2,5

cards 41:13

care 9:22 69:9

case 6:11 8:12,14 15:14 26:22
57:25 58:18 63:8 65:6,7
66:15,16 68:12

certified 5:6

change 15:9 40:10

changing 31:17,18

characteristics 40:13

charge 22:3

charged 47:16

cheaper 16:8

choose 22:16 35:4

circumstances 48:7,11,14

City 66:12

clarify 15:3 31:2 50:24

clarifying 21:10 67:5

class 20:17,19 21:5 36:19,20,
21,23,24 37:2

clean 35:10

clear 12:6,17 14:22 23:15 31:5
40:17
click 46:17
closer 39:2
Cognitech 13:20,22,23 14:9,
12,15 16:1,3,8,11,25 17:2,8,
13,19 23:10,13 40:22 41:2
60:8,11 62:7
colleague 66:3 69:1
columella 26:7
committed 37:7
common 28:22
communicating 24:4
communications 57:19
companies 11:24 12:16,18
13:5
company 14:1 53:17
compare 23:20 25:12
compared 25:13
comparing 48:17 54:20
comparison 22:12,15,19,22
25:3,8,14,15,24 26:1 31:19
43:19 44:16 45:10,15,17,18,
19 48:19 54:10,19 55:10 64:6
67:6,9
comparisons 24:18 55:11
complaint 20:17,19 21:5
component 35:12,14,15,16
computing 13:19,20 60:6 61:2
concluded 69:10
concurred 67:2
conduct 10:18 22:12 43:18
conducted 8:7 14:3 22:15
26:2 29:16 44:16 50:1 57:20
conducting 19:18 36:16 61:15
65:12
conducts 19:20

confer 66:3 69:1
confidence 38:4
confident 22:10,14,25 48:16,
20 49:3
configurations 15:9
connection 8:6
considered 10:3
consist 54:17 65:7
consisted 65:6
consisting 41:5
consists 54:18
contained 63:3
content 33:16
context 6:2
continual 17:25
continue 21:11
continuing 13:17 27:6 30:13,
25 32:11 47:10 59:9,16
contract 11:24 12:1,6,8,19,22
13:6 52:21
contracting 14:1
contracts 12:2,12 13:1
copies 10:12
copy 41:9 59:15
correct 6:2,3,8,11,12 8:16
9:15 11:15,17,18 12:9,10,11,
20,21,23,24 14:25 15:18,19
16:12,13 17:22 19:2 20:10
23:21,22 24:1,2 25:25 26:19
29:25 33:8,18 34:25 39:3,4,
15,25 40:8,21,24 43:4,7,10,12
44:17,18 45:25 46:5 47:1
50:14,18 52:9,12 53:7 56:1,2
58:3,8,19,22 60:3 61:9,19
62:1 63:3,15 64:9 67:21 68:19
Corrections 41:7
correctly 17:18 55:23
cosmetic 55:3

cosmetics 55:9
cost 16:2,7,10
Coulson 58:7,22 61:25 63:25
65:11,16
couple 16:2 21:10 67:5
court 5:5 7:4 59:14
covers 55:7
crime 8:23 10:15 36:18,19,20,
25 37:1,8 47:17,21,23 50:25
51:3 52:4 53:6 54:3
crimes 37:6
criminal 9:21
crop 33:12,15,19 67:22
cropped 59:1,22,23 68:7
cropping 33:24 59:3
Cunningham 30:11,23 32:9
47:8 66:7,10,11 68:20 69:8
current 9:9,10 46:25 62:24
63:2,6,13 64:13,19
curriculum 51:11
cut 29:21

D

data 12:14
database 11:17 23:21 27:13
40:25 41:1,3,16 42:8,13,15,
17,24,25 43:3,6,9,11,15
44:22,24 45:3 46:7,8,12,16,
24,25 47:4 50:13,17 56:12,13,
24 61:15 63:3,10,21 64:2,7
68:13
databases 68:14,17
Datworks 12:1,8,11,13,14,
22,23 13:1,5,25 14:5,16 21:4
23:19 32:21 35:13 52:18,20,
21,25 53:9
dates 19:5
day 21:23

days 21:19,21
dealt 9:20
deceased 35:9
decide 29:24
decided 44:20
deem 21:1 22:6,7
deemed 66:17
defense 47:15,22
degree 16:9 31:1,2
density 31:23
department 11:8 41:7,9 49:15,
16 50:20 64:18 66:12
departments 19:22
depending 21:19 30:10
depends 21:18 45:20 56:11
62:15
deposed 6:13
deposition 5:7,21 6:2,22 8:11,
19 59:15 69:10
describe 9:8 45:6
describing 24:10
description 11:9
details 37:8
determination 22:10 31:8
49:5,8
determine 15:13 24:20 45:9
48:8,12 55:25 67:14
determined 65:11
determining 64:12
Detroit 49:15,16 50:19,20
66:12
difference 15:7
difficult 30:17 31:11,19
dig 12:7
digital 10:11,15,18 11:10,11
dim 30:6,10

dimly 30:9
directly 12:6
discuss 55:11
discussed 32:1 39:18 47:25
discusses 6:5
discussing 54:20,23
discussions 6:10
disposal 35:7
disrespectful 7:15
dissimilar 26:12
division 53:6 54:3
document 17:15 26:8,10,11
documentation 15:10
documented 29:5
documents 8:18 26:5 51:8
58:2,11
double-check 57:7
DPD 8:24 49:16,18 50:3,7,15,
20 51:1,15 52:7,14 54:1,3
57:19
DPD's 51:2 52:4,8
drawing 39:8
drink 29:11
driver's 10:12 28:2 41:10,12
43:8 46:25 47:1,3,7 50:11,12
62:24,25 63:2,5,8,9,13 64:14,
19
dropped 57:23
due 15:6,7
duly 5:16
duplicate 34:11

E

e-mail 20:14 21:14,16 27:10
57:15 59:14
e-mails 21:12

earlier 44:15 58:1 64:5
ears 22:25 25:10,19,20 67:14
employees 10:20 11:3
employer 9:9,10
end 29:22 68:23
ends 24:22
enforcement 6:7 19:22 20:13,
15 27:19 48:5 57:16 64:11,17
enhancements 36:9
enter 21:5,6 22:5 40:19 62:10
entered 23:20 58:25
entire 28:12 65:21,22,24
equipment 5:8
essentially 12:16 15:11 28:1,5
35:21 37:23 38:2 40:20 45:11
establish 9:6
estimate 42:21
evaluated 67:13
event 38:12
Evergreen 19:14
evidence 10:18
exact 49:20
examination 5:23 58:6 66:9
examine 25:9
examined 5:18
examiner 10:1,3 11:7,11 20:22
21:12,15,23 22:5,9,13,17
24:13 25:6 27:17 28:13 29:4,
14,23 31:9 36:3,8,16 37:5,25
40:19 44:8,19 45:8 46:11,14,
21 48:8,11,15 51:23 58:5
examiners 11:7,10 21:13
27:25 28:17 32:5 36:13 43:16
examines 21:12
Excellent 9:5
exclude 56:8

Excuse 57:23
Exhibit 59:6,8,13
exist 64:7
exonerate 56:7
expected 28:19
expecting 13:10
experience 48:3
expired 63:14 64:14
explain 18:14 32:24 34:8
39:16
explanation 10:5
extensive 55:9
extent 25:15 37:4 51:13
eyes 22:24 25:9,20 67:12,14

F

face 22:23 30:14 31:18,21
33:3,4 34:5,11,12,17,19,21,
22,23 35:20,22,23 68:3
faces 43:19
facial 6:5,15 8:6,14,24 9:20,
23,24 10:1,24 11:5,22,24
12:4,8 14:2 16:4,23 18:9,17
19:18,20,24 20:1,7,12 21:2,3
32:20 33:25 36:16 38:21
39:23 42:18 47:6 49:18,25
50:4,7,21 51:25 52:13 53:8,
12,15,19 55:4 58:16 59:21
60:2 66:17
fact 15:8 64:1
factor 16:7
factors 30:3 31:4,10 32:1
fair 6:19,23 7:2,8,13 8:3,15
familiar 6:18 52:13 58:10
FBI 23:11,13 39:8 40:23 43:3,
6,8,11 44:22,23,25 46:8
53:19,20 54:16 55:7 60:15,18,
21 62:3,12

FBI's 42:24 62:4
features 22:23 25:12 26:6,12
30:17 31:7,20 55:4
February 15:5
feel 22:10,14 24:14 48:15,18,
20 49:3
field 49:5
file 20:16,19 21:5 36:19,20,21,
23 37:2
files 15:8
find 7:1 16:22
finding 38:21
fine 7:11 48:7
fingerprint 9:19 42:1
fingerprinted 41:23
fingerprinting 9:21
finish 7:12
focus 55:8
follow 46:22
follow-up 55:22,23 57:15
forehead 25:19 31:18 67:11
forensic 10:18 55:12
forensically 26:11
forgot 7:21
form 30:11,23 32:9 47:8
forthcoming 7:18
forward 23:5
frame 8:23 19:8 35:22
fraud 36:22
frequently 15:24 17:9
front 17:11,14 25:16
frontal 25:18 67:11
FRT 40:18
function 35:24
functions 36:3

G

galleries 16:18,20 18:22 21:8
23:8 24:4,11,14,20 39:6 47:25
60:24 61:1,22 65:21,22,24
gallery 16:22,25 17:1,3,5,6,9
18:13,15,16,19 22:11,20 23:6,
7,9,10,11,13,23 24:17 26:14
28:12 37:21 38:7,14,17,24,25
40:12 44:4,8,17 46:2 49:4,12
60:6,10,13,15,17,21 61:3,4,6,
10 63:16 64:8 68:15,18
gave 15:4
generally 23:2,14 33:11,22
62:11,20
generated 26:21 27:8
give 29:9,18 42:20 51:14 66:2
68:25
good 16:19 31:5,6 40:7
Gotcha 68:11
grab 21:25
grabbed 22:2
great 6:21 10:6
ground 6:18 7:21
group 6:4,9
guardian 41:22
guess 11:9 17:4 22:21 28:25
34:19 37:23 42:20 51:14
66:15 68:14

H

hair 25:19,21
hairline 25:19
half 34:10,11,18,21,23 35:19
62:16
hang 13:8
Hanson 5:1
happening 25:3

hat 31:20
head 31:5,10 56:23
heard 42:11
held 5:8 9:16 11:13
helpful 56:17,22 57:17
high 38:19
higher 17:13 37:25
histories 9:22
hit 21:7 40:19 62:10
hits 40:19
hitting 23:6
hold 9:24
holders 6:7
homicide 36:22 37:1
hour 62:17
hours 54:22
Howard 5:21 6:1,14 58:1 59:7,
17 66:7,11 69:4
human 62:5

I

I.D. 41:11
Ideal 53:18,21,23 54:2,5,15,18
55:6,13
identification 31:24 32:2,3,17
41:13 53:19
identifications 54:8
identified 26:18 28:15 47:13
61:20
identifies 47:19
identify 20:4 47:13 56:9
identifying 27:17 67:12
image 10:1 11:10,11 16:21,24
18:18,19 20:25 23:3 24:16,17
25:9,10 26:15,17 28:2,14
31:11 33:11 34:6,16,22,23
38:3,15,16 42:3 45:12 46:18,

19 59:9,17,20,22,23 60:1
63:19 66:15 67:15,21,22 68:3,
6,13
images 10:11,12 18:16 23:12
26:8 34:9 41:10 46:17 63:20
immediately 44:1
impact 31:17
impaired 41:20
implement 57:12
important 6:21
incident 8:13
include 41:11 57:19
included 25:23 41:15 42:8
43:2,3,14 50:13 63:10
including 11:2 31:21
Incorporated 53:18
increased 57:3
independently 24:6,8
indicating 24:23 38:18
individual 24:16 35:9 45:23
individual's 45:21
individuals 11:5
informal 6:4
information 8:18 9:1 20:24
27:12 33:20 37:3 47:15,22
56:11 67:23
informed 37:4
Innovations 53:18,21,23 54:3,
6,16,18 55:7,13
inputting 33:10
inquire 60:20
inquiries 56:15
inserting 34:21
Institute 17:17
instructs 8:2
integrate 12:15,18

integrator 12:14
Intel 8:23 50:25 51:3 52:4 53:6
54:3
interactions 49:14
interpreted 38:20
investigation 36:18
investigative 8:9 20:3,4 25:1
26:15,18 27:18,24 28:15,16
32:13 47:14,19 48:4,9,13,23
49:7 55:15,19 56:16,21 57:17
61:21 64:10 65:10,15,17
66:21,24 67:2
investigator 32:12
investigators 52:8,11
involve 67:25
involved 10:23 20:13 64:24
involvement 62:5 65:5
involving 8:8
issue 62:21
issued 27:1
issues 6:6
items 9:3 15:9 25:13,23

J

January 5:2
jawline 25:19
joining 13:9
jump 8:17

K

kind 12:19 21:21 23:1 35:11,
21 55:12 57:11,15 67:23 68:1
knowledge 14:6 51:1 63:24
65:25
Krystal 5:21

L

lab 10:17
label 59:6,12
larger 45:14
law 6:6 19:22 20:13,15 27:19
48:5 57:16 64:11,17 66:12
lawyer 47:23
lawyers 47:16
lead 8:9 20:3,4 22:2 25:1
26:15,18 27:8,9,18,19,24
28:6,9,10,15,16 32:13 47:14,
20 48:4,9,13,21 49:7 55:25
56:6,16 57:17 61:21 64:11
65:10,15,17 66:21,24 67:3
leading 30:12,24 32:10 47:9
leads 48:23 55:15,19,21 56:21
learn 55:12
learning 54:22
leave 21:19,20
legislation 41:20
lengthy 54:22
license 10:12 28:2 41:10 43:8
47:3,7 50:12 62:24,25 63:2,5,
9,13 64:14,19
licensed 23:19
licenses 41:12 47:1 50:11
63:9
life 9:21
lighting 30:4,7 31:10 36:8
likelihood 37:10,16,19,24,25
38:2
limited 33:14
lines 25:16,18 67:7,8,10,11,16
linked 46:17
lip 26:9
list 36:24

listed 25:14,23
lit 30:9
local 19:21 20:13,15 64:17
locate 24:24 33:3,4
log 27:12 37:3
logging 56:14
long 9:12 62:9 63:4
long-term 16:10
longer 35:13 36:1
lot 35:9 56:9
low 31:23
lower 38:1
lowest 44:13

M

machines 9:21
made 32:17 36:13
make 7:17,25 14:22 20:23
22:10 27:13 30:17 31:8,19,21,
23 32:2 33:23 47:21 49:5,18
54:8 57:10
makes 9:6 17:3
making 22:18 36:6 49:8
manager 10:4,8 11:12,14
21:18,20 51:23 58:13
manner 7:19
March 8:7 14:2,16 15:18,21
29:15 42:18 49:25 52:4 63:4,6
marked 59:8
marks 25:17 67:13,16
match 17:13 23:25 39:3 64:13
65:19
matched 61:7
materials 51:6
matter 36:6 40:2,7
Mayor 5:19,21,24 13:9,13,17

26:24 27:6 30:13,25 32:11
47:10 59:9,12,16 66:5 68:25
69:4
meaning 33:3 50:12
means 6:17 7:6 9:14 11:19
16:16 23:17,23 33:17 39:17
51:25 56:14 65:9
meant 67:8
media 42:7,8,12
medication 7:16
member 6:10 20:16
members 53:6
memory 18:2 25:21,22
mentioned 11:16 17:23 18:13,
23 25:2 29:23 43:13 48:15
62:3
Michigan 5:6 6:6 9:10,11,12,
14 11:8 39:7 41:6,7,9 44:24
66:16,20
mind 34:13
minimum 39:19
minute 59:25
minutes 62:14,16,19
mirror 34:23
mirroring 34:8,21 35:18
missed 27:23
missing 41:25
mm-hmm 7:7 38:8
model 19:14 35:22
moment 11:16 13:8 14:23
18:22 20:12 66:2 68:25
moments 39:12
month 56:4
months 56:4
morning 5:20 69:5,7
morphological 22:12,15,19,22
25:2,8,14,15,24 26:1 43:19
44:16 45:10 48:19 54:10,19

55:10 67:6,9
mouth 22:24 25:10,21 67:14
moved 9:23
moving 23:5
MSP 9:13,15,17,25 10:16
11:23,24 12:2,13,22 13:6,12,
22 14:1,15,23 15:1,25 19:18,
19 20:1,13,15 33:9,21 35:4,24
39:22 40:18 43:5 47:14,21
49:19 50:7,14,19,23 51:2
53:8,12,15,23 54:11 55:14,18
57:13,15 58:18 59:23 60:20
64:5,10 67:19
MSP's 49:14
mugshot 28:4
mugshots 41:5 43:1,2 44:24
45:1,4
multiple 15:8 23:8 31:4,10
46:6,11 48:22 49:21,23,24
63:20
muscular 55:1,9

N

named 13:11
National 17:17
nature 37:5 38:12
NEC 14:13,18 15:18 16:1,5,12,
18,21 17:2,21,23,24 18:23
23:10 40:22 41:2 60:8,9,11,12
61:4,6,14,17 62:7
NEC's 15:20 17:25
necessarily 16:19 17:5 32:25
34:16
neck 25:20
needed 33:20 34:18
Network 10:9 11:20 41:4
newer 16:9,24
newly 19:6
ninth 61:13 62:23 63:14 65:19

NIST 17:15,16,21
nodding 7:7
nose 22:24 25:10,20 26:7
67:14
notary 5:6
noted 57:10
notify 46:10
number 20:17,20 21:5 36:23
37:20 38:12,14,22 39:1,25
48:6
numbers 38:9,23 39:9,17 44:1
49:20

O

object 7:23 30:11 32:9 47:8
objection 7:25 30:23
officers 50:20 51:1
officials 6:7
older 18:4
opens 22:9
oral 51:5,7
order 19:11 26:21 44:6
original 27:10,14 28:20,23
oversee 10:8,13,14,15,17

P

paid 19:13
paperwork 51:14
parole 41:7
part 51:7 54:15
parties 5:11
past 42:10 51:24
Patrick 59:13 66:11
pause 21:10
pay 17:25 18:3 19:11

peer 28:1,5 65:8,9,13
peers 28:6 54:24
pen 57:24
pending 7:13
people 10:13 49:4 51:9 52:1
percent 52:19
percentage 56:20
percentages 17:12
Perfect 10:8
performed 58:6
performing 17:19
performs 50:4
person 5:13 21:6,22 22:1,2
33:19 41:20,25 42:4 44:20
46:12 56:1
person's 35:20
persons 33:13
perspective 17:7
Phil 5:21
Philip 27:21 55:2
photo 10:16 19:25 20:20 22:6,
9,11,14,16,19 23:16,20,25
30:3,9,14,18 31:5,7,21,23
32:17,22 33:5,10,16,17,24
34:3,7,10,20 35:1,6,17 36:6,8,
11 38:10,13,25 40:13 41:18,
19 42:5,6 43:15 44:2,9,12,17
45:8,11,23 48:1,4 49:11
58:19,24 59:1,3 60:10,13
63:1,2 64:18,19 65:19 66:17
67:24 68:1,9
photograph 29:24 42:2 66:22
67:20
photographed 41:24
photographs 46:7 50:16
photos 10:9 11:20 23:21,24
24:11,12 25:7,11 26:14 30:21
31:13,16 33:22 35:3 39:13
40:11 41:4,8,11,15,17 42:8,
12,15,24 43:5,8,11 44:5,23

45:7,22 46:1,11,15 47:3,7
48:17,22 50:12 54:20,22
61:18 63:9 64:2,7

pick 39:25

picking 24:9

picture 62:22 65:18

pictures 61:6

pixel 31:23

place 14:9,12

Plaintiff 5:22

played 58:17

plenty 31:7

point 23:3 27:8,12 37:20,22
51:12,15

points 16:23 33:4 37:23 38:21

police 9:11,13,14 19:21 49:15,
16 50:20 66:16,20

policies 36:2

policy 51:10,13 57:20

poor 33:2,5

pose 31:11

position 9:24 11:9,13 61:13

positions 9:8,16 11:4

possibly 18:25

potential 48:23

potentially 16:23,25 34:12,16,
17 68:2

power 51:12,15

practice 36:5,10,13 43:17,25
49:1

pre-process 33:9

prepared 26:13,16

preparing 67:21

prescription 7:16

presentation 51:7

pretty 37:16

previously 11:13 35:12 40:17

primary 17:7

prior 27:23 36:6 63:4,8

probation 41:8

probe 18:18 20:25 23:3,16,20,
25 24:16 25:6 33:2,10,11,24
34:20 38:3 40:13 45:8,12
65:19 66:15,21 67:21 68:13

problem 29:12

procedural 36:5

process 19:17 20:9,17 21:9
24:9 25:3,8 28:12 37:23 38:4
45:8 48:19 54:11,19 57:14
67:25

processing 10:19 33:14

produce 16:16 27:3 40:11

produces 16:17

producing 17:20

program 10:16 32:22

progression 54:21

promoted 11:14

protocol 64:6

proved 57:17

provide 13:5 25:1 27:9,11
28:10 36:25 48:21 51:2,10,19,
21 52:8,10

provided 15:12 21:1 50:19,23
51:8,15,18 52:3 65:8,10

providers 12:12,19 53:10

providing 49:4,6

proving 16:4 56:22

public 5:6

pull 25:5 45:13,17,18

purchased 19:13 23:18

purely 51:5

purged 47:3

purposes 59:14

pursuant 5:10

put 6:5 27:3,15

Q

qualified 21:15

quality 31:12 33:2,5

question 6:25 7:12,13 8:1
10:7 13:14,15 30:12,24 31:14,
15 32:10 34:15 47:9 55:22
65:12

questions 6:22 7:19,23,24
21:11 66:8,13 67:5 68:21

quick 29:11

R

race 40:12

Rank 13:19,21,23 14:8,14,17,
19,20 17:21 18:12,25 19:6,8,
10,12,15 23:9,12 40:21 41:2
60:6,13 61:2,10,14,17 62:7,23
63:22 65:19

ranked 44:6,9,12,13 48:1,3
62:23

rankings 40:2

rate 57:2,5,12

rates 17:13

reach 56:6

read 13:14

reads 13:15

reason 7:10 42:5 57:25

reasons 16:2

recall 36:12 42:20 51:16 62:25

receive 20:14 21:8 53:8,12
56:10,15

received 8:22 24:10 27:10
54:12 58:18

recently 19:1

recognition 6:6,15 8:6,14,24
9:20,23,25 10:24 11:6,22,25
12:4,9 14:3 16:4 18:9,17
19:18,20,24 20:1,7,12 21:2,3
32:20 33:25 36:17 39:23
42:19 47:6 49:18 50:1,4,8,21
51:25 52:13 53:9,12,16 58:17
59:21 60:2 66:18

recognize 59:16

record 11:19 23:15 66:4 69:3

recorded 26:1

redacted 43:21

refer 8:11 19:24 21:22

reference 36:24

referring 8:14 20:8

refuse 40:11

register 41:22

reiterating 55:13

reject 32:22

rejected 33:1

related 6:15 9:3 54:21

relating 58:3

relying 16:1

remaining 46:1

Remote 5:1

remotely 5:10

remove 35:11

rendering 35:12,14,15,16

repeat 48:10 55:17

rephrase 17:4 31:14

replicate 34:18

replicates 35:21

report 25:1 26:3,4,5,11,13,16,
21 27:2,15 65:15,17

reporter 5:5,7,9 7:4 13:15
59:15

reporting 42:7,9

reports 27:25

repository 10:11,15

request 8:22 20:16,18,22,23
24:22 49:22

requested 21:6 27:20 52:10

requester 24:23 27:9 28:11
55:23

requests 19:21 27:14 49:19,
21

require 20:16

required 19:8 20:24 29:15
36:1 46:4,21,23 53:17

requirement 49:11

requires 53:23,25 54:2

requiring 64:6

resize 68:1

resizing 68:6

resorted 35:4

respond 24:23 29:6

response 13:16 19:21

responses 28:2 56:15

responsive 26:25

result 40:7

results 16:5,17,18 17:10,20
18:20 33:7 38:3 39:23 40:4,5
60:5 62:5,9

retain 47:14

return 16:22,25 24:3 33:6
37:21 38:3,22 39:14,23 40:4
42:3 48:9,13 60:24 61:4 62:3

returned 8:8 17:8 18:17 22:11
23:6,7,8,14 38:17 39:6 60:6,
21 61:2,13,21 62:6 66:20
68:14,17

returning 17:5 23:24

returns 23:23

review 8:21 21:9 28:1,5,12
29:4,12,13 46:1 49:10,11

65:8,9,13,22,24

reviewed 8:18,22 9:1 58:2,11
66:24

reviewing 54:23

road 42:2

Robert 5:22 8:8

role 10:21

room 5:9

Root 7:22 8:2 13:12 27:5 66:7
68:23

rotate 21:21 34:6

roughly 15:20 42:16 49:22

routinely 19:20 47:6

rules 6:18 7:21 36:2,7

run 16:21,23 18:10 22:16,19
23:16 24:5,7 33:11 36:5,10
42:19 47:7 60:2 62:10

running 40:20

runs 23:16 40:18

S

sake 10:14

savings 16:10

scale 38:2,4 39:18 40:3 43:14
44:6

scan 9:21 18:9 42:19

scans 47:6

scars 25:16

scene 10:15

schedule 47:4

score 38:15

scores 43:13

screen 59:5,10

search 8:7,12,15,25 14:3
18:17,20 19:25 20:8,12 21:7
22:3 23:6,14 28:18,20,23
29:16 36:17 40:19 47:12,19

49:19 50:1 58:3,10,17 62:10
64:25

searched 18:19 20:21 59:1,20

searches 19:19,20 40:20
43:16 50:5,8 57:20

seconds 62:12,14,16

Secretary 41:10,14

send 27:24 28:6,9

sending 27:18,23

sends 19:25 20:1 44:25 64:11

sense 9:6

separately 19:11

sergeants 10:18

series 18:16 54:21

services 11:25

serving 58:13

set 23:2 37:20 39:19,20 40:1
48:6 68:23

shadows 30:13

shape 26:9 31:17,18

share 59:5

shared 15:4 20:14

shares 43:5

sharing 59:25

shop 34:7,10 35:17,18 36:8
68:1

shorthand 5:7

show 16:5 46:18,19 59:6

showed 15:10 63:13 65:17

showing 16:17

side 9:19,22 30:22 35:21 42:2

side-by-side 24:17 25:7 45:14
55:11

sign 41:23

similar 26:7,12 35:16,19 37:17
38:22 45:16 55:7 67:13

similarities 48:18

single 40:18 49:10,11

sit 6:4

sitting 63:12

skeletal 54:25 55:9

skin 35:11

skip 26:20

SNAP 10:9,10 11:16,17,19
21:4,7 41:3,16 42:8,13,15,17,
24 43:2 46:8,24,25 50:13
51:22 63:3,10

so-and-so 42:4

social 42:7,12

software 9:2 12:1,9,13,23,25
21:4

somebody's 64:19

SOS 50:11

sound 6:19 7:8,13

speak 11:21 32:25 39:7,20
61:23 64:15

speaking 23:2 58:7 62:11,20

specialist 11:7,9

specifically 50:25

spend 54:22

stable 55:5

stake 6:7

standard 23:1

standards 17:17 22:17,21
23:3

start 5:25 45:16

started 9:18 10:1 18:7 57:11,
13

state 5:6 9:10,11,12,14 11:8,
19 41:6,10,14 43:15 45:2 57:6
66:16,20

stated 12:16

states 45:1,4

Statewide 10:9 11:20 41:4

statistics 56:5

step 20:11 21:20 25:4 27:20,
22,23 46:21

steps 58:16 60:20

stipulate 5:12

stop 34:14 35:24 45:24 59:25

straight 30:18

strike 39:11 65:11

structure 55:1

stuff 51:12

subject 33:19 56:9 67:24
68:10

subjective 48:14

submit 41:8,24

submitted 41:5 68:13

submitting 33:24 45:2

Subpoena 26:25

substance 7:17

success 57:8,10,12

successful 55:25 56:7,19

successfully 56:9

sufficient 48:9,12

suitability 30:14

suitable 29:25 30:4,9

suitably 33:5

supervise 10:20 11:5 52:1

supervisor 10:2 11:12 28:3,13
29:5,14 64:24 65:4,5 66:25
67:2

supplemental 26:3,4,5,10,13,
16,21 27:2,14

surgery 55:4

suspect 47:13

switched 15:25

sworn 5:10,13,16

system 10:10 21:3 22:6 32:21
33:6,10,25 39:23 41:24 46:10
58:25 60:2 62:21

T

taking 7:5 9:22 68:9

talk 18:21 54:25

talked 39:11 67:7

talking 53:1,2,5,6 67:6,9

tattoos 25:17

technology 11:23 17:17 50:21
52:14 53:13,16 66:18

tells 33:6

ten 45:19 46:19 62:19

term 18:13 20:7 37:9

terms 37:12,18 39:17 40:25
55:12

terrible 65:12

tested 17:15 18:6

testified 5:18 14:23 44:15 52:7
58:1 64:5

testify 48:16

testifying 22:25 48:20

testimony 5:12 14:22

testing 16:4,16 17:10

thing 6:21 34:8 39:6 56:8

things 7:7 29:9 33:13 36:9
38:5 55:3,6 67:7

thinking 22:21

thought 33:1

threshold 37:10,19,24 39:12,
13,24 40:10

thresholds 39:10,19

throw 31:9

time 8:23 9:4 14:5,10,11,18
15:11,23 16:6 19:6,8,15 23:4
29:9 56:4,21 57:13 60:9 65:4

66:6 69:5,7

times 18:14 20:18,19 34:13
35:8 56:10

titles 11:8,10

today 7:5,19 8:6 57:3,25 58:8
63:12

today's 8:19

told 36:17

tone 35:12

tools 24:18

top 44:9 48:1,2,3 56:23

Total 10:22

touch 55:3

track 56:12,13,18

tracking 57:12

train 50:25

trained 36:15 43:22,24 49:6
51:9

training 10:4 22:13,22 31:9
36:14 43:18 45:21 50:19 51:5,
6 52:8,11 53:8,12,15,19,21,24
54:5,12,14,15,17,18

trainings 50:23 51:2,18 52:1,3
53:20

trains 54:3

transaction 21:25

trauma 35:9,10

trim 33:15

troopers 10:17

true 39:5

truth 5:16,17

truthfully 6:23 7:18

Tuesday 5:2

turn 19:17 34:16 47:15 48:22
49:14 57:24 64:3,8

turned 31:5,10 47:22 48:4
55:20 56:1 61:6 63:14,16,18,

21 65:18

turning 11:22 39:10 46:24
47:25

twins 54:21

type 36:19,20,25 37:1 51:11
56:8

U

ultimate 32:2

ultimately 24:19 42:1 47:16,20

understand 7:1 8:5,13 9:13
20:8 32:6,16 33:21 37:9,12,18
49:15 58:5

understanding 15:7 17:18
50:15 55:22

understood 8:4

undertakes 54:11

unit 10:10,13 51:22 52:4 58:13

unnecessary 33:16

unpack 38:6

unsuitable 32:22

update 15:9 19:12,15,16

updated 15:21,23,24 18:24
19:1,3

updates 17:25 18:3,5

updating 19:10

upload 21:3

upper 26:8,9

utilize 13:19 53:10

utilized 15:22 34:12 55:25

utilizes 10:16 13:1

utilizing 14:15

V

valuable 54:6

varies 62:12,13

vary 62:13

vendor 15:3,4 16:4 17:10
39:21 40:1 52:18

vendors 11:23 12:5 52:16

verbal 29:18

verbally 7:6

verify 46:14 55:14,18

vermilion 26:9

version 13:21 14:17,19,20,24
15:17 18:5 19:15

versions 9:2 14:14 15:2,5,11,
14

versus 9:4 17:5 38:1 67:15

viable 24:15,21,24,25 25:5
38:1 49:2,9

videoconferencing 5:8

viewing 45:14

Virtual 5:1

visible 25:11,18 44:3

vulnerable 41:19 42:4

W

wait 56:3

waiver 41:23

walk 20:11 25:8 58:15

wander 42:1

ways 35:3,6 55:4 62:2

week 49:22,23,24

weekly 49:20,21

Williams 5:22 6:11 8:8,12,13
14:2 60:23 61:2,7,11,20 62:22
63:20 64:2,24 65:18 66:16
68:12

Williams' 15:14 18:9 26:22
29:15 35:1 42:18 49:25 57:24
58:18

window 45:14

wire 35:22

work 6:16 31:3 54:6 62:6

worked 9:18,20 10:2

worse 17:2,3,6

wrinkles 67:10

writing 27:4 29:6

written 36:11 44:1 51:6

Y

Yankowski 65:3,13

year 19:7 62:25

years 9:15,17 15:1 53:1 54:24

younger 55:6

Z

zoom 33:18 67:19 68:2,9

zooming 67:25 68:5