

Nathan Howell

04/06/2023

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

ROBERT JULIAN-BORCHAK WILLIAMS,

Plaintiff,

Case No. 21-cv-10827

Hon. Laurie J. Michelson

Vs.

CITY OF DETROIT, a municipal
corporation, DETROIT POLICE
CHIEF JAMES CRAIG, in his
official capacity, and
DETECTIVE DONALD BUSSA, in
his individual capacity,

Defendants.

DEPOSITION DUCES TECUM OF NATHAN HOWELL

Taken by counsel for the Plaintiff, at the City
of Detroit law offices, located at 2 Woodward Avenue,
Suite 500, Detroit, Michigan 48226, on Thursday, April 6,
2023, commencing at 3:06 p.m.

APPEARANCES:

For the Plaintiff:

JULIA KAHN
MICHAEL J. STEINBERG (P43085)
LAUREN YU
Civil Rights Litigation Initiative
University of Michigan Law School 701
South State Street
Suite 2020
Ann Arbor, Michigan 48109
(734) 763-1983
mjsteinb@Umich.edu

APPEARANCES CONTINUED:

For the Defendant:

PATRICK M. CUNNINGHAM (P67643)
City of Detroit Law Department
2 Woodward Avenue
Suite 500
Detroit, Michigan 48226
(313) 237-5032

Also Present:

NATHAN FREED WESSLER
American Civil Liberties Union
Foundation
th
125 Broad Street, 18 Floor
New York, New York, 10004
212-549-2500

Reported by:

MEGAN PRICE, CER 9296

TABLE OF CONTENTS

WITNESSES	PAGE
Nathan Howell	
Examination by Ms. Kahn	4
EXHIBITS	
EX-1 Notice of deposition for the City of Detroit	7
EX-2 Policy Review FRT	10
EX-3 DataWorks Plus Solicitation Software	12
EX-4 Deposition of Krystal Howard	29
EX-5 Deposition of Jennifer Coulson	29
EX-6 CIU Standard Operating Procedures	50
EX-7 SOP Crime Intelligence Unit	55
EX-8 MSP SNAP Biometrics Division	62
EX-9 Non Disclosure Agreement	64
EX-10 Face Comparison and Identification Training	66
EX-11 FBI Facial Comparison and Identification Training	66
EX-12 Complaint	72

1 Detroit, Michigan

2 Thursday, April 6, 2023 - 3:06 p.m.

3 - - -

4 NATHAN HOWELL,

5 HAVING BEEN CALLED BY THE PLAINTIFF AND SWORN:

6 EXAMINATION

7 BY MS. KAHN:

8 Q Great. Well, I'm Julia Kahn. Nice to meet you.

9 A Nice to meet you.

10 Q So I'm going to be deposing you today in connection to Mr.
11 Williams lawsuit against the city of Detroit for his long
12 parole arrest. And as I said, my name is Julia Kahn, and
13 I'll be representing Mr. Williams pursuant to local rule
14 83.21. Before we begin, let me just say some introductory
15 words and lay out a few ground rules and then we can get
16 going. Does that sound good?

17 A Yes.

18 Q So I'd like to make sure we both understand each other and
19 that the court reporter understands both of us. So let's
20 agree to the following. We won't interrupt each other.
21 Please wait until I finish asking a question before you
22 give an answer, and I'll wait until you finish your answer
23 before we're asking my next question. Is that clear?

24 A Yes.

25 Q Please only give verbal answers. Is that clear?

1 A Yes.

2 Q If you don't understand my questions, please ask for
3 clarification and I can rephrase my questions. Is that
4 clear?

5 A Yes.

6 Q And Mr. Cunningham might object to some of my questions,
7 but unless he instructs you not to answer, you'll need to
8 go ahead and answer the question. Is that clear?

9 A Yes.

10 Q Okay. And then I'm also just going to lay out some
11 definitions for us. So, DPD or the department refers to
12 the Detroit Police Department crime intel, or CIU means DP
13 D'S Crime Intelligence Unit MSP means Michigan State
14 Police. The Shinola investigation refers to the
15 investigation into the October, 2018 theft of five watches
16 at Shinola that ultimately led to Mr. Williams arrest.

17 FRT means Facial Recognition Technology. FRT is a
18 computer program or algorithm that takes an input photo,
19 compares it against one or more stored images and attempts
20 to produce an output with one or more possible matches or
21 investigative leads. And a probe image or probe photo is
22 the image or photo that is fed into Facial Recognition
23 Technology in order to be compared against one or more
24 stored images in a database. Are these definitions clear
25 to you?

1 A Yes.

2 Q Okay. You're free to take breaks. I only ask that you
3 please answer any question on the table before taking a
4 break. Is that okay with you?

5 A Yes.

6 Q And then this deposition is limited to two hours, so
7 hopefully we can get through everything fairly quickly
8 without the need for many breaks. Can you please identify
9 yourself for the record? What is your name and current
10 Position?

11 A My name is Nathan Howell and I am a Crime Analyst II.

12 Q And then have you ever had your deposition taken before?

13 A Yes, I have.

14 Q Was that as your role at DPD?

15 A Yes.

16 Q Okay. Have you had your deposition taken multiple times?

17 A Just one time, one another time.

18 MR. CUNNINGHAM: You don't have to talk into the
19 cell.

20 THE WITNESS: I can't -- I'm not sure how close
21 I have to get to the phone.

22 BY MS. KAHN:

23 Q Is there anything that would prevent you from thinking
24 clearly and testifying truthfully today?

25 A No.

1 Q Okay. I'm deposing you today as a 30B6 witness. As such
2 You speak for the city of Detroit, is that your
3 understanding?

4 MR. CUNNINGHAM: All right. I'm just going to
5 place an objection on the record that Mr. Howell's
6 testifying in his capacity as an analyst.

7 MS. KAHN: Okay. And, unless you mean to inform
8 us that Mr. Howell is not prepared to address the topics
9 on which he has been designated I'll proceed with this as
10 a normal 30B6 deposition.

11 So I'm going to introduce exhibit number 1.

12 (EX-1 marked for identification.)

13 BY MS. KAHN:

14 Q If you could turn to page number three and look at topic
15 number 13. Could you please read item 13 in this document?
16 You can just read it to yourself. So this is the notice of
17 deposition for the City of Detroit as defendant in this
18 lawsuit, correct?

19 A Yes.

20 Q And it lists the topics on which the plaintiff has
21 requested to the city to produce 30B 6 Deponents, correct?

22 A Yes.

23 Q And you have been designated to testify on behalf of the
24 City of Detroit on that topic, correct?

25 A Yes.

1 Q Okay. And you do understand that the answers you provide
2 today are binding on the city, correct?

3 A **Yes.**

4 Q Okay. What preparation did you do for this deposition?

5 A **I reread the face rec policy and standard operating
6 procedures for the Detroit Police Department.**

7 Q Which, how much time did you spend reviewing these
8 documents or materials?

9 A **An hour.**

10 Q And did you bring any documents or notes with you this
11 morning?

12 A **I did not.**

13 Q Did you speak with anyone to prepare for this deposition?

14 A **I spoke with Mr. Cunningham.**

15 Q And anyone else?

16 A **Nope.**

17 Q Okay. And how much time did you spend speaking with them?

18 A **Don't remember the exact time.**

19 Q Approximately.

20 A **Half hour to an hour.**

21 Q Okay. So who is your current employer?

22 A **Detroit Police Department.**

23 Q And how long have you been with the DPD?

24 A **Four years and 10 months.**

25 Q And could you walk me through the positions you've held

1 with DPD?

2 **A** Certainly. So I've been a crime analyst working on the
3 main Realtime centers floor doing midnights as an analyst
4 there. Then I moved to homicide for three years and I was
5 embedded with the Eastern Homicide squad, which covers the
6 fifth and ninth precinct. And how, excuse me, I am in
7 crime control strategies.

8 **Q** And how long have you been there?

9 **A** At Crime Control Strategies?

10 **Q** Yes.

11 **A** Roughly eight months.

12 **Q** Okay. And what are your response -- what were your
13 responsibilities as a crime analyst?

14 **A** I was responsible mainly for doing analytical work on
15 suspects workups, which would encompass their criminal
16 history, their social media, also doing non-fatal shooting
17 workups, homicide workups on those incidents. So
18 backgrounds on the location where it happened, witnesses,
19 victims, suspects and then assisting the investigators,
20 with their homicide investigation when I was in homicide
21 since I was embedded with them.

22 **Q** Okay. Were you a crime analyst at the time of the Shinola
23 investigation?

24 **A** Don't remember when it was.

25 **Q** Okay. So, it was the fall of 2018 into 2019?

1 A Yes.

2 Q Okay. So, did DPD begin using FRT before they procured it
3 in house?

4 A I don't know.

5 MS. KAHN: So I'd like to introduce exhibit
6 number 2. Sorry, I think these got a little bit mixed up
7 since the last time -- you're right here.

8 (EX-2 marked for identification.)

9 MR. CUNNINGHAM: When you're looking at these
10 names, just answer what you know if you don't or go, don't
11 guess or speculate, just what you know and what you don't
12 know.

13 THE WITNESS: Okay.

14 MS. KAHN: This is Exhibit number 2. I think you
15 should have all of these, but let me know. Have them
16 again.

17 MR. CUNNINGHAM: Yeah, good.

18 MS. KAHN: Okay.

19 MR. CUNNINGHAM: Let me just make sure.

20 MS. KAHN: Sure. It's just the policy review the
21 same order.

22 MR. CUNNINGHAM: They are --

23 MS. KAHN: They should roughly. I mean.

24 MR. CUNNINGHAM: The same. They are the same. I
25 failed too - Well, preserve the integrity of my Exhibit

1 order.

2 MS. KAHN: Me too.

3 BY MS. KAHN:

4 Q If you could just turn to page seven. So under policy
5 timeline, could you just read the first bullet point
6 there?

7 A **DPD began using Face recognition technology in using the
8 state system. At the time, DPD had no policy directive
9 specific to DVD's use of the technology.**

10 Q Does that seem correct to you?

11 A **I don't know. I didn't know that.**

12 Q Okay. So, in, did DPD have a contract with the company
13 that provides FRT software?

14 A **I believe so.**

15 Q what company?

16 A **I think it was DataWorks.**

17 Q Would it be correct to say that DataWorks is a platform
18 that integrates facial recognition algorithms from other
19 companies?

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

21 Q Okay. Do you know what algorithms DPD was using when they
22 first contracted with DataWorks in 2017?

23 A **No.**

24 Q Okay. And in March of 2019, what algorithms was DPD
25 using through the DataWorks platform?

1 A I don't know.

2 Q Okay. Does DPD have access to the FBI's FRT algorithm?

3 A I don't know.

4 Q Does DPD's version of DataWorks provide the ability to
5 perform an FRT search on a static probe image? Correct.

6 A Yes.

7 Q And when DPD first contracted with DataWorks DPD purchased
8 the ability to run facial recognition on live video,
9 correct?

10 A I don't know.

11 Q I'm going to introduce exhibit number 3. This is the
12 solicitation.

13 A Thank you.

14 Q Are you familiar with this document?

15 A No.

16 (EX-3 marked for identification.)

17 MS. KAHN: Can we take a two minute break really
18 quickly?

19 MR. CUNNINGHAM: Sure.

20 COURT REPORTER: We are going off the record?

21 MS. KAHN: Please. Thank you.

22 (Off the record)

23 (Back on the record)

24 BY MS. KAHN:

25 Q Are you familiar with the statewide network of agency

1 photos?

2 **A Yes.**

3 Q If I refer to that as SNAP, will you understand what I
4 mean?

5 **A Yes.**

6 Q what is SNAP?

7 **A It's far as I know Arrestee's. Mugshots.**

8 Q Okay. And did DPD'S DataWorks platform interface with
9 snap?

10 **A Yes.**

11 Q And SNAP is maintained by MSP, correct?

12 **A Yes.**

13 Q As of 2019, what SNAP images could DPD access?

14 **A Statewide.**

15 Q Okay. And as of 2019, what SNAP images could DPD not
16 access?

17 **A Everything not statewide.**

18 Q Okay. Could MSP access the images that DPD could not
19 access?

20 **A Can you repeat the question?**

21 Q Sure. The images that DPD could not access, could MSP
22 access those images?

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

24 Q Okay. Does running an FRT search through DPD'S data work
25 system as of 2019, did that have any advantages over

1 running an FRT search through MSP's data work system?

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

3 Q And you are aware that SNAP database has both expired and
4 current driver's license photos in it, correct?

5 **A No.**

6 Q Okay. So crime Intel is the DPD unit that runs FRT
7 searches via DataWorks, correct?

8 **A Yes.**

9 Q And what is the process? When a DPD investigator wants to
10 have an FRT search run on an image?

11 **A They will submit a request, to CIU crime Intel. And then**
12 **a trained crime analyst such as myself will look at the**
13 **request and make sure it's follows policy and then submits**
14 **the image to, DataWorks, uploads it, runs face rec on the**
15 **image, and DataWorks, if there's a confirmed lead,**
16 **investigative lead from the number of candidates, that we**
17 **choose, a train, crime analyst, second crime analyst will**
18 **peer review it, and then you will either, confirm it,**
19 **let's say they confirm it, then it goes to a supervisor**
20 **for the supervisor to ultimately then approve. And then**
21 **from there you create, a report and you send it off to the**
22 **requester.**

23 Q Okay. And you said the request of that adheres to
24 policies. What did you mean by that?

25 **A Department violent crime suspect in an ongoing**

1 investigation. Yeah.

2 Q And was the process the same in 2019 for a DPD
3 investigator wanting to have an e t search done?

4 A I can't remember.

5 Q Okay. So you said that they send it to Crime Mental
6 Health, correct?

7 A Yes.

8 Q And how do they send it?

9 A Smartsheet Link.

10 Q And what is that?

11 A It's like an online Excel that is people can work on at
12 the same time. They'll send it through a Smartsheet form,
13 and then it populates a row in the Smartsheet.

14 Q And was that the same in 2019?

15 A I don't know.

16 Q And sorry, were you a crime analyst a -- crime Intel
17 analyst in 2019?

18 A Yes.

19 Q Okay. So you were doing the same stuff in 2019?

20 A It's been a long time. I can't remember if I was Okay. I
21 was doing, I moved to homicide afterwards, so I wasn't
22 doing exact same stuff.

23 Q Okay. And so you said the crime Intel analyst, they're the
24 people who had received the request. Is that correct or
25 who would receive it?

1 A Yes.

2 Q Okay. When a crime Intel member receives an FRT request,
3 what do they do next after what you just talked about?

4 A Like initially when they get the request, they, vet it and
5 then they, essentially go through the, the process outline
6 before with that request.

7 Q And do they always run a search themselves?

8 A Yes.

9 Q Would they ever not run the search themselves?

10 A Yes.

11 Q Why might they not?

12 A If they, if it's a bad still image and can't, or don't
13 believe it will result in anything or it's blurry
14 pixelated like a mask for instance, would be example.
15 You're like, I can't run this, guy's wearing a mask,
16 whatever. Don't run it.

17 Q So then what would happen then?

18 A You just tell the, requester that, sorry. Unless you have
19 an image that's usable for facial recognition, we cannot
20 complete this request.

21 Q Okay. when crime Intel receives a request from a
22 detective, how quickly are those results processed? Is
23 there a sense of urgency?

24 A They can mark them urgent, but, no. I mean, it takes as
25 long as it takes.

1 Q What is the typical turnaround time for processing a
2 request?

3 A I don't know.

4 Q Approximately.

5 A Can take an hour or two, a full eight-hour shift.

6 Q Okay. And if it's marked urgent, how long would it take
7 on average or?

8 A An hour or two hours.

9 Q Okay. if no FRT operators are present at crime until when
10 a request is processed, what happens?

11 A One of the on-call crime analysts will have to be
12 recalled, essentially to do it.

13 Q Okay. After getting a return on a search, do you send the
14 result immediately back to the requesting detective?

15 A If it's a positive lead and it's gone through the peer
16 review process and the supervisor process, after you
17 create the report, you send them the one page report.

18 Q Okay. And in 2019 after getting a return on a search,
19 would you immediately send it the result back to the
20 requesting detective?

21 A Don't know for sure.

22 Q How do they decide whether to run a search?

23 A The crime analyst?

24 Q Yes.

25 A If the, able to use, if the lead is, leave the probe,

1 probe image is clear enough, and you believe it's be
2 accepted by the program and go through the process, then
3 you would submit it.

4 Q Okay. So just to clarify, is image quality a factor in
5 deciding whether to run a search?

6 A Yes.

7 Q Are there other factors?

8 A Well, like, it has to be a part of a violent crime, active
9 investigation. And that's, that's what I can remember
10 right now just off the top of my head.

11 Q Has crime until declined to run an FRT search for other
12 DPD personnel due to concerns with image quality?

13 A Yes.

14 Q Do you know how many times?

15 A No.

16 Q Could you approximate?

17 A No.

18 Q Is it very large or?

19 A I just have no idea. I've never counted.

20 Q Sure. Is the rationale for declining to run a search
21 recorded in some way?

22 A Yes.

23 Q Does that kind of decision require review from another
24 crime until employ employee?

25 A No.

1 Q Has crime Intel always had this policy?

2 A **The current policy?**

3 Q Yes.

4 A **No.**

5 Q When did it start?

6 A **September, 2019.**

7 Q And, do crime intel analysts have discretion on their own
8 to decline to run an FRT search?

9 A **Yes.**

10 Q Do crime intel analysts have discretion to send the
11 program image to MSP?

12 A **No.**

13 Q Who has to sign off on those decisions?

14 A **A supervisor.**

15 Q And who has the authority to make those decisions?

16 A **To send it off to MSP, the supervisor.**

17 Q Okay. Has that always been the case?

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

19 Q Was that the case in 2019?

20 A **I'm not sure.**

21 Q So image quality can affect the reliability of results
22 from an FRT search as we've talked about, correct?

23 A **Yes.**

24 Q And I just want to walk through some of the factors and
25 ask if you think they affect the reliability of FRT

1 results. So would dim lighting affect the adequacy of the
2 photo?

3 **A Yes.**

4 **Q** And would shadows on the face?

5 **A Yes.**

6 **Q** The angle of photo?

7 **A Yes.**

8 **Q** Occluded facial features by something like a hat?

9 **A Yes.**

10 **Q** Pixel density?

11 **A Yes.**

12 **Q** Image brightness?

13 **A Yes.**

14 **Q** Skin tone?

15 **A We're not supposed to pay attention to illumination.**

16 **Q** Okay. What do you mean by that?

17 **A With illumination, you, because like you just all alluded**
18 **to, the lighting of an image will affect someone's skin**
19 **tone, their skin color, so in that regard, you can't look**
20 **at one photo and another photo, and just because one looks**
21 **lighter, darker, whatever, exclude the ones that are a**
22 **different shade or whatever, just because of that, because**
23 **it's affected by something within the environment outside**
24 **the photo.**

25 **Q** Okay. So just to clarify, would skin tone affect the

1 reliability of FRT results?

2 **A No.**

3 Q And would race?

4 **A No.**

5 Q Are there any other factors that would affect the
6 reliability of FRT results?

7 **A No. Maybe like glasses.**

8 Q Okay.

9 **A Like a full mask.**

10 Q That might hurt?

11 **A Might not, again.**

12 Q So a probe photo that has one of these features is likely
13 to result in a less reliable FRT result, correct?

14 **A Yes.**

15 Q And multiple factors together could have a greater impact
16 on the reliability of the results, correct?

17 **A Yes.**

18 Q How does a crime intel examiner determine whether the
19 photo is of adequate quality to submit to an FRT search?

20 **A You will use your training and I mean, essentially the
21 image pixelation is probably one of the biggest factors.**

22 **And so you use the training you have from the FBI, and
23 DPD, in order to determine image quality.**

24 Q So like what from the training would you Use?

25 **A The things, yeah, the factors that you mentioned, outline**

1 that you're supposed to look at in regards to image
2 quality along with trying to determine, when you're
3 looking at the photo, if you're able to adequately see, a
4 nose nostrils, lip shape, the vermilion, right above the
5 lip, ear shape, ear lobes, if they're connected or not
6 eyebrow shape, shape of the eyes, shape of the skull.

7 If you're able to adequately looking at those things,
8 make them out distinctively, without, comparing it to
9 another photos, the candidates from the program, if those
10 things are able to be adequately observed with your own
11 eyes, then you can run it or you say, no, I can't.

12 Q Okay. And you mentioned the pixel quality too. Is there an
13 optimal range of pixels per foot?

14 A No. I don't know that.

15 Q Okay. And do you know if there's a sub-optimal amount of
16 pixels?

17 A I don't know.

18 Q Okay. So the factors you were just talking about, would it
19 be fair to call those subjective factors?

20 A I don't know.

21 Q Okay. Are there objective measures of pro photo quality
22 that can determine whether an image is suitable to submit
23 for an FRT search?

24 A Well, it has to get in a face, I mean that would be well,
25 I would say I'm not aware of if there are other ones, no.

1 Q Okay. So would the number of pixels between the eyes, per
2 se be a factor?

3 A I don't know.

4 Q Okay. Is there any setting or configuration in DataWorks
5 to limit probe photos to those where there are a certain
6 number of pixels?

7 A Oh, I have no idea.

8 Q Okay. Are there any other objective factors or measures?

9 A No, not that I can think of.

10 Q Okay. So, if a photo is not suitable for an FRT search, do
11 crime intel personnel ever process or alter the photo to
12 try to make it suitable for an FRT to search?

13 A At most, I crop it. I can't speak to if other people do,
14 but I don't believe so beyond cropping and maybe
15 brightness.

16 Q Okay. So what would you change about the brightness? What
17 would you alter there?

18 A Too light darkened. Too dark light.

19 Q And how does cropping help?

20 A Usually, the still image is, it's like a store, someone
21 walking in, for instance, to a store and so you'll get the
22 whole image. There will be a door and other people are
23 whatever, so you just want to crop it on their face.

24 Q Okay.

25 A But it's not putting everything together as, one image.

1 Q Got it. After the examiner has decided that the probe
2 image is adequate for an FRT search, what happens next?

3 A You will submit it to DataWorks, upload it, submit it,
4 whatever you want to call it.

5 Q And you mentioned the examiner would most likely crop the
6 image before uploading it to DataWorks?

7 A If they have to, if the image you receive is already just
8 of their face and not their whole body or something like
9 that, then you don't have to. But if it's not, then you
10 just crop it within DataWorks.

11 Q And what about any other alterations to the image?

12 A No.

13 Q Once the image is in DataWorks, does the examiner crop the
14 image within DataWorks?

15 A Yes, we, yeah. Cropping, DataWorks, I have a cropping
16 tool.

17 Q How does DataWorks know where the face is in the image?

18 A I don't know.

19 Q What algorithms does crime intel use for an FRT search?

20 A I have no idea.

21 Q So the examiner, do they choose which algorithms to use
22 within DataWorks?

23 A We just submit the image and hit search. So no.

24 Q So is there anything else the examiner has to do before
25 running the search and data works?

1 A You have to, as I mentioned before, just make sure it
2 follows the policy.

3 Q Okay. Do crime mental analysts receive training regarding
4 MSP's technology?

5 A What part of the technology?

6 Q SNAP, for instance.

7 A We received training, but I can't remember if it's like
8 over, I guess SNAP.

9 Q Okay. What does the training consist of?

10 A Mainly how to use SNAP, what images are within SNAP, and
11 then like, image quality, stuff like that, what to look
12 for in the images as well. That sort of thing, I guess.
13 Pretty, yeah.

14 Q Okay. Are crime mental analysts trained to understand FRT
15 results from MSP?

16 A Yes.

17 Q Are crime Intel analysts trained to reach out to MSP for
18 more information about an FRT search, for example, asking
19 for a supplemental report from MSP?

20 A No, I don't believe we do that.

21 Q Are you aware that such reports exist?

22 A No.

23 Q Do you ever generate a supplemental report yourself at
24 DPD?

25 A Yes. Whenever I receive a positive lead and it goes

1 through the process, I do a DOT, what they call a
2 supplement report.

3 Q But even when you generate your own supplemental report,
4 you're not asking for them from MSP?

5 A **No, I don't request a supplemental report from MSP.**

6 Q Okay. So, you're not really seeking the existence of such
7 a report from MSP?

8 A **I'm not.**

9 Q Okay. And would the report, would it state how reliable
10 the match is?

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

12 Q So the report that you generate, do those include
13 information about how reliable the match is?

14 A **No, there's no reliability scale that I produce.**

15 Q Okay. Do they have anything, regarding confidence
16 thresholds within your report?

17 A **No.**

18 Q So just jumping back for a second to DPD'S DataWorks, how
19 many galleries of possible matches come back?

20 A **Depends on the image, I guess. I mean, it can be anywhere
21 from 50 candidates to over, 100, 200. It can be any
22 number. There's no set number.**

23 Q Okay. So is it different every time?

24 A **Yes.**

25 Q Does DataWorks ever say the image is too bad for an FRT

1 search?

2 **A Yes.**

3 Q And then what happens?

4 **A Usually it's negative lead, sorry.**

5 Q Okay.

6 **A To the officer --**

7 Q Got it.

8 **A Or requester if it's an officer in charge.**

9 Q Okay. I'm sure they don't love to hear that, but

10 **A They do. Not, but Oh, well.**

11 Q Yeah, nothing you can do. So yeah, just turning back to

12 the supplemental report, what is in your supplemental

13 report?

14 **A My supplement report outlines the date that I received the**

15 **request. The officer who sent me the request, where they**

16 **work at. Also, what crime it was for the report, number of**

17 **that crime, how many candidates I had. The fact that I**

18 **received a positive lead, my peer reviewer, who confirmed**

19 **it, and the sergeant who approved of the lead and where**

20 **they work as well as the day, time, it was approved and**

21 **that's it.**

22 Q And, how long have you been writing Supplemental reports?

23 **A Years.**

24 Q So, would your supplemental reports have looked the same

25 in 2019?

1 A Yes. So if, I'm trying to think, if, 2019, yeah, they
2 might have had one line added where it says I submitted,
3 something about it being an investigative lead only into
4 the, officer, but that about it probably, I think.

5 Q Okay. So if you were to submit a supplemental report in
6 March of 2019, that would've included information about
7 your supervisor reviewing the search and all of that
8 information?

9 A I don't know. I honestly don't know if I did any then, but
10 I can't remember.

11 Q Why did DPD start outsourcing request to MSP?

12 A I don't know if we ever, I don't know if we, when we, I
13 don't think I was working there when we were doing that.
14 If this is from the thing or whatever, they did it.

15 Q Okay. I'm sorry, would you just remind me when you started
16 working at Crime scene?

17 A July 21st, 2018.

18 Q Okay. Did MSP reach out to DPD for, to offer the use of
19 their FRT?

20 A I don't know.

21 Q Do you know if DPD reached out to MSP about using their
22 FRT?

23 A I do not know.

24 Q What is MSP's process for running an FRT search?

25 A I don't know.

1 Q Okay. Is it standard practice for DPD and MSP to share
2 information regarding their FRT process?

3 A I don't know.

4 Q Was this standard practice in 2019?

5 A That I don't recall.

6 Q How many searches are run in house versus how many are
7 sent to MSP?

8 A I have no idea. Sorry.

9 Q No, it's okay. is there a policy for determining when and
10 why a search would get sent to MSP?

11 A I don't know if there's a policy for it.

12 MS. KAHN: Okay. I'm going to introduce exhibit
13 number 4. This is a new one, Pat. This is four, correct.
14 Okay. This is Exhibit number 4.

15 (EX-4 marked for identification.)

16 BY MS. KAHN:

17 Q So, if you could just turn to the mini pages where it says
18 to 24-45. So if you could just start on page and read
19 through to mini page number 24-25.

20 A Do you want to read out loud?

21 Q You can just read to yourself.

22 A Great.

23 (EX-5 marked for identification.)

24 BY MS. KAHN:

25 Q And then I'm going to introduce Exhibit number 5. If you

1 could flip to page 5, mini page 15 through 18 and just
2 read those to yourself.

3 So, those are statements from Krystal Howard and
4 Jennifer Coulson from MSP. Is that how you understand the
5 MSP procedure to work?

6 **A I never knew it before.**

7 Q Is that also how DPD's procedure works?

8 **A Parts of it.**

9 Q What parts?

10 **A Judging, when running a photo looks like, from what**
11 **Krystal Howard's mentioning, but the other parts I are new**
12 **to me, the galleries and the algorithms I guess we're**
13 **talking about.**

14 Q So has any of that changed since 2019?

15 **A I have no idea.**

16 Q Just to ask, in 2019, did DPD understand all of these
17 facets of the MSPs process?

18 **A That I don't know.**

19 Q And which parts were not known to DPD?

20 **A I don't know what they don't know.**

21 Q So when crime Intel runs a facial recognition search, you
22 first receive a probe photo from a detective or officer of
23 the person they're interested in identifying, correct?

24 **A Not identifying, I'm going to say identifying,**

25 Q What would you say?

1 A Investigative lead.

2 Q Okay. So, they're interested in creating an investigative
3 lead of, is that correct?

4 A Yes.

5 Q And do you speak to the DPD detectives regarding the FRT
6 search?

7 A Yes.

8 Q Are you aware of the changes -- sorry. Are you aware of,
9 are you aware of any changes when conducting the effort? T
10 search?

11 A Don't know what the question means.

12 Q Never mind, I'll just move on. Is it typical for a crime
13 analyst to alter the probe photo before putting it into
14 the facial recognition system?

15 A No, not usually.

16 Q And was it typical in 2019?

17 A No, I don't believe we did. No.

18 Q What are the differences between how DPD and MSP conduct
19 an FRT search?

20 A I don't know. We do the peer review and the supervisor
21 review. I don't know if they do that. I honestly don't
22 know their process beyond what I just read in here.

23 Q Okay. So, just to confirm, you get a raise from three
24 different algorithms, Correct?

25 A I don't know.

1 MR. CUNNINGHAM: What do you mean by you mean
2 him, or do you mean Mission State police.

3 BY MS. KAHN:

4 Q Sorry. I mean, crime intelligence gets a raise from three
5 intelligence, from three different algorithms.

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

7 Q Does DPD pay attention to whether the photo is current or
8 expired?

9 A **What photo?**

10 Q The, investigative lead that's generated that photo,

11 A **The mugshot?**

12 Q Sure.

13 A **Or, I guess what do you mean by like, expired?**

14 Q So, if a photo returns as an investigative lead, did they
15 pay attention to the date that that photo was generated?

16 A **Yes. The day of the mug shot.**

17 Q And, if a license was to return, would they pay attention
18 to whether it was the current license or an expired
19 License?

20 A **We don't receive the licenses as far as I'm aware of in
21 our searches.**

22 Q Okay. And DPD doesn't habitually review other photos of
23 the suspect before returning an investigative lead or
24 factor into account that the algorithms did not identify a
25 match with those other photos. Is that correct?

1 A You repeat the question, sorry. Sure. I it's kind of long.

2 Q So, when DPD receives an investigative lead, it's not the
3 custom to review other photos of the suspect that may be
4 within the database. And take into account that the
5 algorithms did not identify a match with the other photos
6 of the same person.

7 A We review, photos of the lead. If I think someone's a good
8 lead, I do review and people, analysts review their other
9 photos, but I don't know about the algorithm part. I'm not
10 aware of what algorithms data works uses.

11 Q And was this the same in 2019?

12 A I don't know.

13 Q And DPD does not turn information about facial recognition
14 results to defense attorneys when they're potentially
15 exculpatory?

16 A I don't know. I'm not a detective or prosecutor.

17 Q So when DPD started using FRT in house, did DPD
18 immediately assign crime intel to run these FRT searches?

19 A I don't know.

20 Q Did crime intel receive any prior training on FRT before
21 this? Before they began using FRT in-house?

22 A I don't know. No. I'm sure they had training how to run
23 the software, but I don't know. I don't know beyond that.

24 Q Were there any policies regarding FRT that crime intel was
25 required to review when DPD began running FRT searches?

1 A I can't remember --

2 Q Any -

3 A -- can't remember what there might have been, but I can't

4 remember what said.

5 Q Any formal training?

6 A I don't know.

7 Q So for DataWorks, does the system ever fail to return

8 results?

9 A Yes.

10 Q Why?

11 A Bad provision image still photos bad and it doesn't, run

12 it even, it just has not accepted.

13 Q Any other reasons?

14 A Not that I'm aware of.

15 Q How many results are returned?

16 A There's no set number.

17 Q So it -- there's not, so it's just, however many that it

18 returns in that is unique and individual to that search.

19 A Yes.

20 Q So you're saying that the number of results would vary per

21 search?

22 A Yes.

23 Q Are you familiar with the term confidence threshold or

24 likely the threshold?

25 A Confidence threshold. A little bit.

1 Q Okay. Just so just to be clear and make sure we're on the
2 same page. So a confidence threshold is the minimum
3 confidence score needed for the facial recognition
4 technology system to consider an image to be a match or a
5 hit. That is, if the gallery of results includes only
6 pictures where the confidence score was above 95%, 95% is
7 a confidence threshold. And when we're talking about a
8 confidence score, that refers to the number or score
9 assigned by the facial recognition system to indicate how
10 similar two items are to images are or faces.

11 So, how similar those are to each other? In other
12 words, it's likely the, it's like the algorithm thinks
13 that the two images are the same person. So the threshold
14 means choosing a minimum score below which the system will
15 not return possible matches. So, does the DataWorks
16 interface display a confidence score for each image that
17 is returned as a possible match

18 MR. CUNNINGHAM: Using the definition that you
19 just told, correct?

20 MS. KAHN: Correct.

21 **THE WITNESS: Oh, I don't know. Based on**
22 **definition, if it does.**

23 BY MS. KAHN:

24 Q Okay. In general, does it?

25 A **There's a number beneath the photos.**

1 Q What is that number?

2 A I'm going to assume it's this confidence thing, but I
3 don't, I never knew if that's what it was called.

4 Q So it's visible to the examiner?

5 A Yes.

6 Q And, where is it?

7 A Just beneath the photo.

8 MS. KAHN: Okay. Now I'm going to introduce
9 exhibit number 6. Or actually, I'm sorry, let's turn back
10 to exhibit, I think it's number 3, the solicitation. Yes.

11 BY MS. KAHN:

12 Q And if you could just turn to page 12 there. So that image
13 at the bottom, is that an accurate representation of what
14 the gallery looks like?

15 A Yes.

16 Q Okay. So is there one set of results that's returned or is
17 there more than one set?

18 A What do you mean by like, one set?

19 Q Of possible matches that come back.

20 A Like, like one row?

21 Q No. So how many galleries of possible matches would come
22 back?

23 A I believe one image. I don't call them galleries, I call
24 them just candidates, but I guess one, I guess it's like,
25 that's one gallery, so one gallery per one image.

1 Q Okay.

2 MR. CUNNINGHAM: Can we go off the record for one
3 moment?

4 MS. KAHN: Sure.

5 (Off the record)

6 (Back on the record)

7 BY MS. KAHN:

8 Q Yeah, so just looking back at the image, if you see where
9 it says NEC above, the photos to the right of the larger
10 photo, do you see that in the little letters?

11 A **Yes.**

12 Q Is that normal that that would display that there?

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

14 Q Is there normally something that's displayed there?

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

16 Q So are those numbers directly under each photo the
17 confidence score?

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

19 Q Okay. And are the scores retained after a search is run?

20 A **The, all the searches are retained, so yes.**

21 Q And are the scores provided to the detective who requested
22 the FRT search?

23 A **No.**

24 Q And so you said the gallery of possible matches, it is
25 retained after a search is run?

1 A Yes.

2 Q Is that gallery provided to defense counsel in criminal
3 cases as part of the city's pretrial disclosure op
4 disclosure obligations?

5 A I have no idea.

6 Q So when an examiner has a set of results from an FRT
7 search, what do they do next?

8 A They examine, compare each candidate to the probe image
9 submitted, and make a determination on if any of them are,
10 any of the candidates are good investigative lead for the
11 probe image.

12 Q Do they engage in a morphological comparison?

13 A Yes.

14 Q And what does that entail?

15 A You look at the facial features, not to, but including,
16 skull structure, ears, eyes, eyebrows shape, eyebrows,
17 nose, nostrils, lips, markings, moles. That's, who I can,
18 name right now, but, features of the face essentially.

19 Q Okay. Is the morphological comparison, reviewed by another
20 crime intel employee?

21 A Yes.

22 Q Who?

23 A Another trained crime analyst.

24 Q And what does that review entail?

25 A Same thing. They look at the, investigative lead chosen

1 and, look at the same, morphological features of the face
2 and, make a termination on if it's, if the individualized
3 selected is good or not.

4 Q Does the reviewer only compare the probe image to the
5 investigative lead image selected by the first examiner?

6 A Yes.

7 Q And is the process a result of the morphological
8 comparison recorded in any way?

9 A What do you mean by process?

10 Q So is the, once you have the result, the image that is an
11 investigative lead and you've done a morph morphological
12 comparison, that morphological comparison, is it recorded
13 in any way?

14 A We do a report at the end after the supervisor, after, he
15 gives you approval on the two, of two prime analysts said,
16 to the requester.

17 Q Okay. And what does that report include?

18 A It includes the image requester submitted the image in the
19 probe, the candidate, investigative leads image, their
20 information, demographic information, who they are, the
21 crime type, report number, date, time, everybody's names
22 who was part of the process. That's all I can remember
23 from it. And number of candidates that were in the, that
24 you chose the one person from.

25 Q Okay. So the review by the other crime intel employee,

1 would they look freshly at the whole set of possible
2 candidate matches that the original review reviewer looked
3 at?

4 **A No. They reviewed the investigative lead, the first**
5 **individual first crime analyst, analyst selected.**

6 Q So could this review include looking at the final match
7 and not doing the analysis itself from the --

8 **A No. They still have to do the analysis of the one image to**
9 **the, of the lead selected to the probe image.**

10 Q Does the examiner ever determine that there is no match?

11 **A Yes.**

12 Q How often?

13 **A I don't know a number or a percentage, but it does happen.**

14 Q How frequently? Just approximately.

15 **A Frequently. Frequently. I mean, number of times, yeah.**

16 Q Okay. When an examiner determines that there's a possible
17 match, how do they communicate it to the detective or
18 officer who requested the search?

19 **A When there's investigative lead, the examiner will, have**
20 **that report created when all the process is done and it's**
21 **been peer reviewed, supervisors reviewed it, and create a**
22 **report, and email them the report and say, this is only**
23 **investigative lead, please do, whatever they do with file**
24 **investigation to determine if it's the individual or**
25 **whatever.**

1 Q Does an examiner ever provide multiple investigative
2 leads?

3 A **No.**

4 Q Why not?

5 A **You only do one because otherwise it's not how it works.**

6 **You do one investigative lead. If there's no investigative**
7 **lead, that's it. You stop the process, you just select the**
8 **one. Doing two would not be beneficial.**

9 Q So if a detective comes back and says that the
10 investigative lead is not the right person, does crime
11 ever provide a second investigative lead?

12 A **No.**

13 Q Is the examiner the only one who views the FRT search
14 results for a particular search?

15 A **The initial crime analyst who does the search?**

16 Q Yes.

17 A **Yeah, the initial crime analyst who does the search is the**
18 **one that will pick the investigative lead.**

19 Q Okay. Do crime Intel personnel sometimes send an image to
20 another agency to run an FRT search?

21 A **Sometimes we send them to MSP.**

22 Q So detectives know how to request an FRT search, correct.

23 A **To crime Intel or to MSP?**

24 Q To crime intel?

25 A **Yes. Detectives know, to use the Smartsheet form.**

- 1 Q To MSP?
- 2 A To MSP for detectives?
- 3 Q Yes.
- 4 A I think so. I don't know though, as I'm not obviously a
5 detective, but.
- 6 Q Do they know what Crime intel does with the probe images?
- 7 A Yes. We outline it and they should know from the reports
8 we send them.
- 9 Q Do they know the FRT identifications might come from MSP?
- 10 A Yes.
- 11 Q Would it matter to a detective where the results came
12 from?
- 13 A I don't know. I'm not a detective.
- 14 Q Probably not. Right?
- 15 A I don't know. I'm Not a detective.
- 16 Q But detectives, they just send the photo and they get a
17 result correct?
- 18 A To crime intel. Yes. I'm not sure if, I guess detectives
19 consent to MSP by themselves, but, I think usually they
20 send it to in-house first, and then crime Intel would ask
21 a supervisor for approval to give it to, MSP to do.
- 22 Q Okay. So crime Intel decides what to do, right?
- 23 A Well, they, we decide, once you get the image, but the
24 detectives, if they're able to send it to MSP separately,
25 I guess they could, but I don't know.

1 Q Okay. So crime Intel would either --

2 MR. CUNNINGHAM: Let's take a break.

3 (Off the record)

4 (Back on the record)

5 MS. KAHN: We can go back on the record. Okay.

6 BY MS. KAHN:

7 Q So, just to clarify, crime Intel would either, they decide
8 to either process it in-house or send it to MSP, correct?

9 A Yes, we can.

10 Q And we're going to talk about why Crime Intel might send
11 it to MSP, but Crime Intel processes the image one way or
12 another, correct?

13 A What's the or another?

14 Q As in they would either process it in-house or send it
15 out?

16 A Yes, we can process it or send to MSP.

17 Q So results come back either from MSP or from crime Intel,
18 and then Crime Intel sends those results to the detective,
19 right?

20 A Yes.

21 Q And would crime Intel ever run a search without a
22 detective's request?

23 A No.

24 Q Would crime Intel ever send a search to another agency
25 without a detective's request for a search to be run?

1 A As long as they have a supervisor approving it.

2 Q So if a supervisor approved it, they could send a search
3 to another agency without a detective's request,

4 A Request the detective requesting what?

5 Q So if there was no detective request for a search to be
6 run, but a super, you just mentioned a supervisors.

7 A No, you always need to have a detective, either the
8 officer in charge or, someone working for the officer in
9 charge that's working on the investigation requests that a
10 facial recognition search be run.

11 Q Okay. So the impetus is always a police officer request a
12 search to be run, then it's run whether by crime, intel,
13 or someone else?

14 A Yes. For crime intel too. I don't know if they ever just
15 do it to MSP themselves.

16 Q Okay. so, what is the threshold that's set for the images
17 to come back? The confidence Threshold?

18 A That, I don't know.

19 Q What is the lowest score you've from ever seen?

20 A I can't remember. They vary. I honestly don't know. I
21 can't honestly remember.

22 Q And then just to jump back for a second, we were talking
23 about MSP. So they, when they run the search, they have
24 three sets of images that come back. Is that the same for
25 DPD?

1 A Okay. We get one set of images that come back, I believe.

2 Q Okay. So again, crime intel can run, can send the probe
3 image to another agency to run the FRT search, correct?

4 A Yes. Just MSP.

5 Q What agency?

6 A MSP.

7 Q Okay. Any other agencies?

8 A None that I'm aware of.

9 Q FBI.

10 A I don't know. I don't know.

11 Q Are, what are the reasons a member of Crime Health would
12 send an image to MSP to run an FRT search?

13 A As far as I am aware since they have licensed broader
14 database to send to them based on this, it sounds like
15 they have the FBI images, so I didn't even know that
16 before, but broader database.

17 Q And does Crime Intel still have an in-house DataWorks
18 database that they run their --

19 A That I don't know.

20 Q Okay. So you're not aware if Crime Intel is sending probe
21 images into an in-house DataWorks or if they're sending it
22 out to another agency?

23 A What do you mean by, what do you mean by in-house?

24 Q So a DataWorks system that's run through DPD?

25 A Oh, yes. Yes. We do use, we do send a DataWorks, in-house.

1 We don't have like an in-house DPD system beyond

2 DataWorks, I guess is what I'm, yeah.

3 Q So what are the reasons a member of Prime Intel would send
4 an image to MSP to run the FRT search?

5 A They just have a broader database.

6 Q Okay. So, as you said, it's because MSP has access to a
7 larger database s to search against, correct?

8 A Yes.

9 Q And is it because DPD does not have a trained FRT examiner
10 on duty?

11 A No. You can get recalled, at any time to, conduct a facial
12 recognition Search?

13 Q would it be because the quality of the probe image is too
14 low for DPD to use?

15 A No.

16 Q Okay. Is there any other reason?

17 A No.

18 Q Before sending an image to another agency, does crime
19 intel do any review of the probe image for quality?

20 A Yes.

21 Q Does crime Intel ever run an FRT search in-house before
22 sending it to another agency?

23 A Yes.

24 Q Would crime Intel have ever run an FRT search in-house
25 before sending it to another agency in 2019 ?

1 A That I don't know.

2 Q Okay. And was there a policy in place for this in March of
3 2019?

4 A I don't know.

5 Q Was it common practice for crime health to do this?

6 A I do not know.

7 Q How often do crime intel personnel send images to MSP for
8 FRT searches?

9 A Not often.

10 Q If no FRT techs are in the office, who opts to send an
11 image to MSP?

12 A Nobody would get recalled to conduct it to an analyst from
13 crime are told get recalled to conduct it.

14 Q Okay. Does MSP always process every image sent to them
15 regardless of quality?

16 A No. I've received responses back about image being too
17 poor of a quality before.

18 Q When MSP returns with search, do they let you know how
19 they felt about the quality of the probe image?

20 A Yes.

21 Q What about the investigative lead?

22 A I don't remember if they do or don't.

23 Q Do you get any additional information from MSP beyond the
24 investigative lead?

25 A Like what information?

1 Q I don't know if MSP sends you anything in addition to
2 that?

3 A Not that I'm aware of.

4 Q Do crime Intel employees ever ask MSP informally?

5 A I don't know.

6 Q When crime mental personnel receive results of an FRT
7 search back from MSP, what do they do?

8 A Give it to the, original requester. same as they do when,
9 if I were to do a, if a in-house DVD crime analyst review.

10 Q Do they conduct an independent comparison of the probe
11 photo and the investigative lead photo?

12 A We can look at it, and do more for lack comparison
13 ourselves.

14 Q So how do they do that?

15 A You would be comparing the investigative lead to the probe
16 to the probe image that was submitted.

17 Q Okay. And when MSP comments on probe image quality, what
18 did they say?

19 A Pixelated, lighting's, poor obstructions. There's
20 something to the quality or what the person's wearing,
21 throw wearing a mask.

22 Q Anything else?

23 A No, I don't believe so.

24 Q And so the practice for, conducting an independent
25 comparison once the result gets sent back from MSP, what

1 was the practice in March of 2019?

2 **A That I don't remember.**

3 Q Was there independent morphological comparison conducted
4 by Crime Intel?

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

6 Q When MSP conducts an FRT search, you understand that they
7 too are using DataWorks and Rank one and NEC algorithms,
8 and they're using them to search the entire SNAP database,
9 right?

10 **A I'm only aware of them using DataWorks. The other parts I
11 have no knowledge of.**

12 Q Okay. Are you aware that the searches MSP conducts
13 examined both current and expired driver's license?

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

15 Q So you said that you can compare, the image from MSP. How
16 often do you do that?

17 **A Pretty much every time because, I want to make sure that
18 the, investigative lead is accurate, as otherwise there
19 it's, there's no point to send it to the detective because
20 it's, a bad lead.**

21 Q Is that what most people in crime intel do?

22 **A I can't speak to what they do unfortunately.**

23 Q Does anyone outside of crime intel ever run an FRT search?

24 **A I don't know. I don't know if they have access. I don't
25 know.**

1 MS. KAHN: Okay. Let's just take a five-minute
2 break.

3 MR. CUNNINGHAM: Okay.

4 (Off the record)

5 (Back on the record)

6 BY MS. KAHN:

7 Q You not even get back on the record. Yes. So, we were
8 talking about, you mentioned that you review results that
9 you get back from MSP. Is there a policy require requiring
10 CIU to review images that they get back from MSP?

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

12 Q Okay. So just talking more about policies now, I'm going
13 to introduce Exhibit number 6.

14 (EX-6 marked for identification.)

15 BY MS. KAHN:

16 Q Do you recognize this document?

17 **A Yes.**

18 Q What is it?

19 **A Standard op standard operating procedures for, CIU Crime
20 Intelligence Unit.**

21 Q And if I refer to the SOP, will you understand, I mean the
22 standard operating procedures?

23 **A Yes.**

24 Q Who is the crime Intel SOP distributed to?

25 **A Crime analyst. It's on our internet.**

1 Q Who is bound by it?

2 A **Individual of working under Crime Intelligence Unit.**

3 Q Is it correct that detectives outside of CRI crime Intel
4 are not expected to be familiar with it?

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

6 Q So it says it has an effective date of 7/1/2018 and a
7 revised date of 4/1/2019. Is that correct?

8 A **Yes.**

9 Q Okay. Let's turn to section eight. What does Section eight
10 cover?

11 A **It covers facial recognition,**

12 Q It has a revised date of 4/1/19, is that correct?

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

14 Q Prior to that date, was there a crime until SOP section on
15 FRT?

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

17 Q In March of 2019, were there any written policies
18 governing crime tells use of FRT?

19 A **I don't remember.**

20 Q So, you don't know if there was a policy guiding crime
21 intel's use of ART in March of 2019?

22 A **Yeah, I don't remember if there was.**

23 Q Okay. Were there any policy documents that constrained or
24 guided the use of FRT at that time?

25 A **No, I don't remember.**

1 Q Okay. Let's turn to subsection 8.11. This subsection
2 discusses training, correct?

3 A **Yes.**

4 Q You can take a minute to read it over if that was helpful.
5 Was the training described in the subsection actually
6 provided to DPD personnel?

7 A **Yes, I believe so.**

8 Q Who was required to take that training?

9 A **Crime analyst conducting facial recognition.**

10 Q So crime until members took this training?

11 A **Yes.**

12 Q Did detectives outside of crime intel take this training?

13 A **That I don't know.**

14 Q When was it offered?

15 A **I can't remember.**

16 Q How often was it offered?

17 A **That I don't know.**

18 Q And who offered it?

19 A **I don't recall who offered the training though.**

20 Q Okay. So it was DPD practice to provide this FRT training
21 to crime until members, but not to other members of the
22 department?

23 A **That I don't know if other members of the department
24 received or, or did not, or if they had the option to.**

25 Q Okay. Let's turn back to subsection 8.7D. Could you

1 please read that subsection?

2 **A Do you want me to read out loud?**

3 **Q Yes.**

4 **A Okay. CIU examiners will analyze, review and evaluate the**
5 **quality and the suitability of probe images to include**
6 **factors such as the angle of the face image, level of**
7 **detail, illumination, size of the face image, and other**
8 **factors affecting a probe image prior to performing a face**
9 **recognition search.**

10 **Q This requires crime intel examiners to evaluate the**
11 **quality and, suitability of the PR probe images prior to**
12 **performing an FRT search, correct?**

13 **A Yes.**

14 **Q But it does not require crime Intel examiners to evaluate**
15 **the quality and suitability of a probe prior to sending**
16 **the probe image to another agency such as MSP for that**
17 **agency to conduct an FRT search, correct?**

18 **A No. We still have to determine whether or not suitable for**
19 **another agency to run it, otherwise they're just going to**
20 **tell us that they can't run it.**

21 **Q Is there a policy speaking to that?**

22 **A That I don't know. I'm not sure.**

23 **Q So in March, 2019, a crime intel examiner could perform an**
24 **FRT search without evaluating the quality and suitability**
25 **of probe images?**

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

2 Q So this is April, 2019, and it was DPD'S first written
3 policy on FRT searches, correct?

4 A I'm not sure, to be honest. I can't remember if there was
5 another one or not.

6 Q Okay. So how would crime Intel members have known the
7 policy before that?

8 A Before?

9 Q Before April 2019, least?

10 A I'm not sure it's on the internet, maybe. I don't really
11 know.

12 Q Okay. And in March, 2019, could crime Intel examiners,
13 they could send probe images to MSP without evaluating the
14 quality and suitability of the probe images first,
15 Correct?

16 A I don't remember if they could or couldn't.

17 Q Sorry, if we could just flip back to. 8.7B. I'm just
18 trying to find -- okay. Prior to April, 2019, did DPD
19 policy require inclusion of a disclaimer that FRT results
20 do not constitute probable cause?

21 A I can't remember if they did. Sorry. No, I can't remember.

22 Q Okay. Prior to April, 2019, did DPD require inclusion of
23 disclaimer when communicating FRT results to the
24 requester?

25 A I don't remember. Sorry.

1 Q Okay. And does the disclaimer, actually --

2 MS. KAHN: Can we take a break for just one
3 minute? Thank you.

4 (Off the record)

5 (Back on the record)

6 COURT REPORTER: Back on the record.

7 BY MS. KAHN:

8 Q Okay. So are you aware of the training from 2019?

9 A **No, I don't remember it.**

10 Q Okay.

11 A **No, I don't remember.**

12 Q So I just wanted to introduce exhibit number 7.

13 (EX-7 marked for identification.)

14 BY MS. KAHN:

15 Q Are you familiar with this document?

16 A **Yes.**

17 Q What Is it?

18 A **It's going to be the SOP for facial rec.**

19 Q And this has a revised date of December 21st, 2020,
20 correct?

21 A **Yes, it does.**

22 Q Is this still effective?

23 A **Yes, I believe so.**

24 Q And have there been any revisions to this SOP since
25 December, 2020?

1 A That I don't know.

2 Q Let's turn to subsection 1.52.

3 MR. CUNNINGHAM: Which one?

4 BY MS. KAHN:

5 Q 1. 52, which is on the first page for process for
6 requesting facial recognition, or not the first page,
7 sorry, when you flip it open, the second page. So, little
8 Roman numeral number two starts with CIU shall perform
9 facial recognition. Could you just read that out loud for
10 me?

11 A Yes.

12 MR. CUNNINGHAM: I'm just going to put on the
13 record this jumps from section 1.1, section 1.6, and I'm,
14 we'll probably missing pages here.

15 MS. KAHN: Yeah.

16 MR. CUNNINGHAM: So you're looking at subsection
17 D on the second page. Okay. Are you sure it's printed or
18 the not.

19 MS. KAHN: I think we may have had some printing
20 issues. If you have the full

21 MR. CUNNINGHAM: Yes, I have a part of that one.

22 MS. KAHN: Yeah. And then this one. Also, yeah.
23 This one seems to have the same issue.

24 MR. CUNNINGHAM: If you just mark the one with
25 the both sides of the face and just look at it and confirm

1 that it goes, that what she was talking about is. Do you
2 see 1.5?

3 **THE WITNESS: Yeah, I see 1.5 here. Yeah, it**
4 **still looks, it's different than mine.**

5 MR. CUNNINGHAM: Show it to the court report that
6 one so she can have page.

7 COURT REPORTER: Thank you so much.

8 MS. KAHN: Thanks.

9 MS. KAHN: The printer doesn't always work the
10 way it should.

11 BY MS. KAHN:

12 Q So if you could just read 1.5 D, little Roman number, rule
13 number two, the whole paragraph.

14 **A Okay. Mine is CIU shale perform facial recognition**
15 **searches utilizing the statewide network of agency photos,**
16 **(snap), which include criminal mugshot images In the event**
17 **additional analysis is needed for confirmation of**
18 **investigative lead. A formal request may be made to MSP to**
19 **search the state's database. Any such request must be**
20 **approved by a CIU supervisor.**

21 Q Does the use of shall in the first sentence mean that
22 under this SOP crime intel must always perform an FRT
23 search using DPD system first and only after doing that,
24 may they send to MSP for MSP to conduct a facial
25 recognition search?

1 A I don't know.

2 Q Does it say anywhere in the policy that crime until
3 examiners may send a request to MSP without first
4 attempting to run their own search?

5 A That I don't know off the top of my head. I don't know.

6 Q So now please look at little Roman numeral number three,
7 which is right below what we've just read.

8 It says, if the examiner detects an investigative
9 lead, the examiner must corroborate this lead with at
10 least one other examiner and a crime intel sponsor. Did I
11 read that accurately?

12 A No.

13 Q Oh, I'm sorry. Did I mess it up? I'll just read it again.
14 If the examiner detects an investigative lead, the
15 examiner must corroborate this lead with at least one
16 other examiner and a C I U supervisor. The corroboration
17 must have written sign off by the supervisor and all
18 examiners involved. Did I read that accurately?

19 A Yes.

20 Q This requirement applies when the examiner detects an
21 investigative lead after conducting their own FRT search,
22 correct?

23 A Yes.

24 Q But this requirement does not apply when DPD receives an
25 investigative lead from MSP after MSP conducts an FRT

1 search, correct?

2 **A Yes.**

3 Q Does this SOP require peer and supervisor confirmation of
4 investigative lead sent back from MSP?

5 **A Not that I'm aware of, no.**

6 Q Is it crime Intel's current practice to have two examiners
7 and a supervisor review investigative leads returned by
8 MSP before forwarding the leads to detectives or other
9 investigators?

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

11 Q Does this review always happen on investigative leads
12 returned by MSP?

13 **A What review?**

14 Q Does review ever happen on investigative leads returned by
15 MSP?

16 **A Individual analysts that send it and receives it back from
17 MSP can do a review of the result from MSP.**

18 Q Okay. And what happens in this peer review process?

19 **A Do more comparison of the probe image to the,
20 investigative lead that MSP selected and sent back.**

21 Q Okay. Does the peer conduct an independent analysis of the
22 gallery of possible matches, or do they simply review the
23 investigative lead and see if it looks right to them?

24 **A For DPD's process?**

25 Q When they receive a lead by MSP?

1 MR. CUNNINGHAM: Who receives a lead?

2 BY MS. KAHN:

3 Q When crime Intel receives a lead?

4 A **We don't have access to their own work. I don't know what**
5 **they do in order to determine their lead.**

6 Q Okay. And you are aware that MSP also has a review
7 process, correct?

8 A **No. I'm not aware of how they're process functions beyond**
9 **the testimony the other two MSP was Provided.**

10 Q Doesn't MSP provide training to DPD on how to do FRT?

11 A **I don't remember if it was them. MSP did.**

12 Q Okay. But DPD is provided with training on how to do FRT?

13 A **Yeah.**

14 Q And who leads this training?

15 A **That I can't remember.**

16 Q Okay.

17 A **I don't know. It might change.**

18 Q Do you know who has led it for you in the past?

19 A **No. I can't remember. It was, years and years ago.**

20 Q Okay. So now let's turn to subsection 1.18. Sorry, let's,
21 can I borrow this again?

22 A **Yeah, I don't have that.**

23 Q It seems to have only printed every other page
24 unfortunately.

25 MS. KAHN: You can also take a look at this if

1 you want, Pat.

2 BY MS. KAHN:

3 Q So this section outlines the content of that required
4 training, correct?

5 A **Yes.**

6 Q Do DPD personnel outside of crime Intel currently receive
7 this training?

8 A **That I don't know.**

9 Q Who is required to take this training?

10 A **Crime analyst that's going to run an image.**

11 Q How often is it offered?

12 A **That I don't know.**

13 Q Who conducts this training?

14 A **I don't remember.**

15 Q Are there written materials associated with this training?

16 A **I don't remember. Yes.**

17 Q Yes?

18 A **Maybe. Yeah.**

19 Q Are there PowerPoint slides associated with this training?

20 A **Oh, yes. PowerPoint.**

21 Q And do attendees at training take notes?

22 A **Yes.**

23 MS. KAHN: So we're going to need the

24 PowerPoints and the notes, Pat.

25 Okay. Now I'm going to introduce exhibit number

1 8. This one should actually have all of the pages.

2 (EX-8 marked for identification.)

3 **THE WITNESS: Okay.**

4 MS. KAHN: Can I just, I think --

5 **THE WITNESS: Which one?**

6 MS. KAHN: The last exhibit, I think we're just
7 going to give to --

8 COURT REPORTER: Thank you.

9 BY MS. KAHN:

10 Q I think you may have had this one from earlier as well. Do
11 you recognize this document?

12 **A Yes.**

13 Q What is it?

14 **A It looks like it's training on the SNAP.**

15 Q These presentation slides are from MSP, correct?

16 **A I guess, yes. It looks like they're labeled at Michigan
17 State Police.**

18 Q And MSP has given this presentation to DPD personnel,
19 Correct?

20 **A I don't remember if it was MSP.**

21 Q So just turning back to Krystal Howard's deposition, which
22 is an exhibit from earlier, could you turn to page 50.

23 **A Oh. --**

24 Q On Corporal Howard's deposition? And then, could you just
25 read lines 19 through 22 aloud?

1 A Does it start with --

2 Q It starts with, has MSP provided page 50 is the top one
3 over here.

4 A Oh, shoot. Sorry.

5 Q Oh, no worries. Sorry. Little page 50?

6 A Where am I starting?

7 Q So has MSP provided line 19?

8 A Has MSP provided any training to the Detroit Police
9 Department or Detroit Police DPD officers on the use of
10 facial recognition technology? Yes.

11 Q That's good.

12 A Oh, okay.

13 Q So which DPD personnel have received this training?

14 A As far as I can remember, crime analysts, I don't know if
15 it was offered to other individuals though.

16 Q So only crime intel members, or you don't know that?

17 A I don't know if other detectives or officers were able to
18 take a train or not.

19 Q Okay. And then can you just look at the bottom, after
20 where you just read, you don't have to read this out loud,
21 but lines 24, 25 onto line one of page 51.

22 A Where do I stop?

23 Q Just the first line.

24 A Oh, okay.

25 Q So, does MSP give this presentation to other DPD personnel

1 besides crime mental health to the best of your knowledge?

2 **A Based on this?**

3 Q Yes.

4 **A Based on what Krystal Howard is saying, it sounds like**
5 **they gave it the crime intel.**

6 Q Okay. And when MSP has given this presentation to DPD
7 personnel, when has that been?

8 **A That I don't remember.**

9 Q Do you know how many times?

10 **A I don't know how many times, no.**

11 Q What training did crime Intel personnel receive in 2019?

12 **A That I don't remember.**

13 Q Do you, besides MSP, who has administered trainings for
14 crime Intel.

15 **A Crime intel personnel and FBI.**

16 Q Okay. Does the FBI training involve provide materials to
17 DPD personnel?

18 **A Yes, but we signed an NDA.**

19 Q Okay. So I just want to introduce Exhibit number 9.

20 (EX-9 marked for identification.)

21 COURT REPORTER: Thank you.

22 BY MS. KAHN:

23 Q Is this the NDA you signed?

24 **A That I don't remember.**

25 Q Does this look like the NDA you signed?

1 A It looks like an NDA.

2 Q And are you asserting that the NDA is a reason that
3 prevents you from answering questions about the materials
4 that were provided to you?

5 A What materials?

6 Q You mentioned that there was an NDA signed when I asked if
7 the FBI provided materials to DPD personnel?

8 A It prevents me answering questions about the FBI materials
9 if that's what you're referring to.

10 Q And is there any term on its face that prevents you from
11 answering questions about the training?

12 A Is there anything on the NDA?

13 Q Correct.

14 A Yes.

15 Q Could you read that aloud to me?

16 A Any request pertaining to the reproduction of this
17 training which will related materials in whole or in part
18 shall refer to the FBI for resolution.

19 Q I'm not asking you to reproduce any of the trainings. I
20 guess I'm just asking you questions about the training
21 generally.

22 A I guess. I don't know if it prevents me or not.

23 Q Okay.

24 A I'd be afraid to break an NDA from the FBI.

25 MS. KAHN: Sure. I think we've had some

1 conversation with the NDA in the past, if we're not able
2 to answer questions about that, we might have to get an
3 order compelling answers about our questions pertaining to
4 the FBI trainings.

5 MR. CUNNINGHAM: Okay.

6 MS. KAHN: So I just want to introduce exhibit
7 number 10. Sorry, it's kind of a big one.

8 (EX-10 marked for identification.)

9 COURT REPORTER: Thank you.

10 Q I only printed out three of these just cause of size. Does
11 this look familiar to you?

12 A **Yes.**

13 Q Was this provided to you in a training for crime intel?

14 A **This is provided by the FBI.**

15 MS. KAHN: And I just wanted to introduce
16 exhibit number 11 as well.

17 (EX-11 marked for identification.)

18 COURT REPORTER: Thank you so much.

19 BY MS. KAHN:

20 Q Does this look familiar to you?

21 A **I don't remember.**

22 Q Okay. So these are PowerPoints and documents that are,
23 were provided to the ACLU by the FBI in response to a
24 Freedom of Information Act request. Are these trainings,
25 especially the one you recognized, are they trainings at

1 Crime Intel has undergone?

2 **A Yes.**

3 Q And who administered those trainings?

4 **A FBI.**

5 Q Okay. Do DPD personnel have those materials?

6 **A Individual who have undergone the training?**

7 Q And do DPD personnel ever take notes of the trainings?

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

9 Q So just back to people who have administered trainings for
10 crime intel, do DPD personnel ever administer those
11 trainings?

12 **A What trainings?**

13 Q The trainings on FRT?

14 **A Do you mean like the FBI training or what facial to look
15 at and things like that?**

16 Q Right. So other trainings --

17 **A Like those DPD does trains on those. I've had them in the
18 past.**

19 Q Okay. How often?

20 **A I don't know how often.**

21 Q Anyone else offer trainings to crime intel?

22 **A Not that I'm aware of.**

23 Q What training does crime Intel personnel currently receive
24 about FRT?

25 **A The FBI training in-house training, and then I guess based**

1 on previous discussions in this deposition, the MSP
2 training looks like.

3 Q Are all crime intel of officials trained in FRT?

4 A What do you mean? People working at CIU?

5 Q Yes.

6 A No, no, not everybody's trained in, facial connection.

7 Q So, what differentiates FRT analysts versus others?

8 A Okay. What?

9 Q So are crime analysts, do they receive FRT training and
10 others don't? Is that correct?

11 A Other?

12 Q Other members?

13 A Some crime analysts have FRT training. Some crime analysts
14 don't have FRT training.

15 Q Okay. Is there a reason that all crime Intel employees
16 can't? Why can't all crime Intel employees run the FRT
17 database?

18 A Why can't they run it? They don't have formal advanced
19 training.

20 Q And what training does crime Intel personnel receive about
21 morphological comparison between probe images and results
22 from FRT searches?

23 A I guess MSP and then FBI.

24 Q And how many hours of training in FRT and morphological
25 comparison are crime intel personnel required to receive?

- 1 A I don't know if there's a requirement.
- 2 Q Okay. What is the content of each training?
- 3 A What's the what?
- 4 Q Content of each training?
- 5 A From my memory, face comparison, I think identification
- 6 training from the FBI goes very in depth to the,
- 7 morphological comparisons and what to look for and
- 8 provides a good background of that along with limitations.
- 9 The MSP one, I can't remember, what exactly it goes
- 10 through and then like the DPD in-house training covers
- 11 much of morphological as well. But also, how to use SNAP,
- 12 like just how to use the program in general. Like how it
- 13 conducted through the process.
- 14 Q Are there ongoing education requirements to maintain a
- 15 certification in morphological comparison?
- 16 A I don't know if there are any.
- 17 Q Are CIU staff certified in morphological comparison?
- 18 A I don't, certified how?
- 19 Q Through training did they receive a certification?
- 20 A I don't know if it's a certification.
- 21 Q Is there anything similar to that that you know of?
- 22 A You get a certificate after you complete FBI training.
- 23 Q Okay.
- 24 A But I don't know if it's certification.
- 25 Q Do CIU staff receive ongoing education? A morphological

1 comparison?

2 **A I don't know if they do, no.**

3 Q Are crime and health personnel trained to prepare sheets
4 documenting their morphological comparisons and the
5 quality of those comparisons when making an FRT
6 identification?

7 **A We make a report. But I don't know exactly how in-depth**
8 **the morphological comparison exactly like what you mean**
9 **about, doing that process part of it.**

10 Q And those sheets are important for understanding the
11 quality of an FRT match, right?

12 **A Yes.**

13 Q And are you aware the, the MSP prepare prepares such
14 sheets too, sorry.

15 **A They provide us a report. But, I don't know if they do**
16 **anything further.**

17 Q Okay. And yet DPD'S policy is not to request those sheets
18 when they receive an investigative lead from MSP, right?

19 **A I have no idea. I don't know. I don't know if they do that**
20 **type of sheet. We just receive a report regarding, the**
21 **lead that was generated.**

22 Q Is there an image resolution below which an examiner
23 cannot perform a reliable morphological comparison?

24 **A That I don't know.**

25 Q Okay. Are examiners trained that they can still return an

1 investigative lead to detectives, even if the photo they
2 identify as an investigative lead appears only in one of
3 the algorithm's results?

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

5 Q And are they trained to notify detectives of this fact?

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

7 Q Sometimes -- So, are you aware that MSP follows the same
8 practices. Correct?

9 **A I don't know what their process or practices are.**

10 Q Okay. Does crime Intel staff ever help run trainings on
11 FRT to other departments within DPD?

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

13 Q Are crime Intel personnel aware that DPD detectives
14 outside of crime intel do not receive FRT trainings?

15 **A I'm not aware. No. I'm not aware of what they received.**

16 MS. KAHN: Can we take a very quick break, like
17 a minute and then get back on the record?

18 (Off the record)

19 (Back on the record)

20 COURT REPORTER: Thank you.

21 BY MS. KAHN:

22 Q How many times has a DPD investigation that used FRT to
23 help identify a suspect resulted in the arrest of a
24 suspect who is not ultimately convicted?

25 **A That I don't know.**

1 Q Does DPD keep track of these cases?

2 A **Which cases?**

3 Q The cases in which someone was arrested because of effort
4 FRT but not ultimately convicted?

5 A **I do not know.**

6 Q And does anyone, okay. Are you aware of the arrest of
7 Michael Oliver on July 21st, 2019?

8 A **From news stories.**

9 MS. KAHN: Okay. I want to enter exhibit number
10 12.

11 (EX-12 marked for identification.)

12 MS. PRICE: Thank you.

13 BY MS. KAHN:

14 Q Can you identify this exhibit for me?

15 A **it looks like, I guess I'll, a lawsuit or something. I**
16 **don't know the official name, but it looks like it's the**
17 **plaintiff suing the defendants.**

18 Q And DPD arrested Michael Oliver on July 21st, 2019,
19 correct?

20 A **I honestly, I don't know when he was arrested.**

21 Q Can you turn to page five for me? Paragraph line 20? You
22 can just read that to yourself. So, DPD arrested Michael
23 Oliver on July 31st, 2019, correct?

24 A **No.**

25 Q Why do you say no?

1 **A Says a Ferndale police officer.**

2 Q Oh, okay. So, and that was based off a warrant out of
3 Detroit, is that correct?

4 **A Yes. That's what it says.**

5 Q Okay. And Detroit Police picked Mr. Oliver up from
6 Ferndale, is that correct?

7 **A That I don't know.**

8 Q Line 21.

9 MR. CUNNINGHAM: He just told you. He just gave
10 the answer.

11 MS. KAHN:

12 Q Okay. And you were a crime analyst at this time, correct?

13 **A Yes.**

14 Q What was crime entails involvement with the Oliver
15 investigation?

16 **A That, I don't know. I didn't work on it.**

17 Q Did DPD conduct a review of this investigation to better
18 understand what happened?

19 **A No. I don't know. I thought there was a document here, but
20 I don't remember.**

21 Q Okay. So do you know if internal Affairs conducted a
22 formal investigation?

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

24 Q Okay. When did you first become aware of the Shinola
25 investigation?

1 A Geez. I read about the lawsuit on the news, when it was
2 filed, and that's when I knew about it.

3 Q And were you involved in the oversight of the Shinola
4 investigation?

5 A No.

6 Q Did you ever speak with Lieutenant Chadwick Bills
7 (phonetic) about the channel investigation?

8 A No, I don't. Not sure who that is.

9 Q Did you ever speak with Captain Cox about the Shinola
10 investigation?

11 A No.

12 Q Did you ever speak with Detective Donald Bussa about the
13 channel investigation?

14 A No.

15 Q Were you aware of the use of FRT in the Shinola
16 investigation?

17 A No. Not tell the news story.

18 Q And were you aware of the use of the photo lineup in the
19 Shinola investigation?

20 A No, not until they mentioned in the news.

21 Q Okay. I think those are all of our questions.

22 MS. KAHN: Pat, I don't know if you have any
23 questions.

24 MR. CUNNINGHAM: I don't have any questions.

25 Okay. I think we can go off the record.

1 COURT REPORTER: And so you wanted to order.

2 Attorney Cunningham, did you want to Order?

3 MR. CUNNINGHAM: Yes, please. I'll take one of
4 both. One and yeah.

5 MS. KAHN: Thank you. And Nate, just while we
6 have you here, the Nate on the phone, I'm sorry. What is a
7 good date for us to get the transcripts back?

8 MR. WESSLER: Oh, yeah, Wednesday or Thursday.

9 MS. KAHN: Yeah. Yeah, that'd be good.

10 COURT REPORTER: Thank you.

11 MS. KAHN: Thank you.

12 (At 5:45 p.m., deposition was concluded.)

13

14

15

16

17

18

19

20

21

22

23

24

25

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

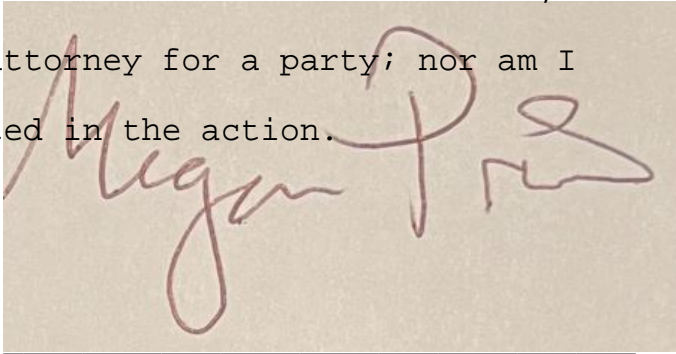
CERTIFICATION

STATE OF MICHIGAN)
COUNTY OF OAKLAND)

I certify that this transcript, consisting of seventy-six (76) pages, is a complete, true, and correct record of the testimony of Nathan Howell, taken in this case on Thursday, April 6, 2023.

I also certify that prior to taking this deposition, Nathan Howell was duly sworn to tell the truth.

I also certify that I am not a relative of, employee of, or an attorney for a party; nor am I financially interested in the action.



Megan Price, CER 9296
Notary Public
Macomb County Michigan
My Commission Expires: 03/29/2026

1

1 7:11 56:5
 1.1 56:13
 1.18 60:20
 1.5 57:2,3,12
 1.52 56:2
 1.6 56:13
 10 8:24 66:7
 100 26:21
 11 66:16
 12 36:12 72:10
 13 7:15
 15 30:1
 18 30:1
 19 62:25 63:7

2

2 10:6,14
 20 72:21
 200 26:21
 2017 11:22
 2018 5:15 9:25 28:17
 2019 9:25 11:24 13:13,15,25
 15:2,14,17,19 17:18 19:6,19
 27:25 28:1,6 29:4 30:14,16
 31:16 33:11 46:25 47:3 49:1
 51:17,21 53:23 54:2,9,12,18,
 22 55:8 64:11 72:7,18,23
 2020 55:25
 2023 4:2
 21 73:8
 21st 28:17 72:7,18
 21st,2020 55:19
 22 62:25
 24 63:21

24-25 29:19
 24-45 29:18
 25 63:21

3

3 12:11 36:10
 30B 7:21
 30B6 7:1,10
 31st 72:23
 3:06 4:2

4

4 29:13,14
 4/1/19 51:12
 4/1/2019 51:7

5

5 29:25 30:1
 50 26:21 62:22 63:2,5
 51 63:21
 52 56:5
 5:45 75:12

6

6 4:2 7:21 36:9 50:13

7

7 55:12
 7/1/2018 51:6

8

8 62:1
 8.11 52:1
 8.7B 54:17

8.7D 52:25
 83.21 4:14

9

9 64:19
 95% 35:6

A

ability 12:4,8
 accepted 18:2 34:12
 access 12:2 13:13,16,18,19,
 21,22 46:6 49:24 60:4
 account 32:24 33:4
 accurate 36:13 49:18
 accurately 58:11,18
 ACLU 66:23
 Act 66:24
 active 18:8
 added 28:2
 addition 48:1
 additional 47:23 57:17
 address 7:8
 adequacy 20:1
 adequate 21:19 24:2
 adequately 22:3,7,10
 adheres 14:23
 administer 67:10
 administered 64:13 67:3,9
 advanced 68:18
 advantages 13:25
 Affairs 73:21
 affect 19:21,25 20:1,18,25
 21:5
 affected 20:23
 affecting 53:8

afraid 65:24
 agencies 45:7
 agency 12:25 41:20 43:24
 44:3 45:3,5,22 46:18,22,25
 53:16,17,19 57:15
 agree 4:20
 ahead 5:8
 algorithm 5:18 12:2 33:9
 35:12
 algorithm's 71:3
 algorithms 11:18,21,24 24:19,
 21 30:12 31:24 32:5,24 33:5,
 10 49:7
 alluded 20:17
 aloud 62:25 65:15
 alter 23:11,17 31:13
 alterations 24:11
 amount 22:15
 analysis 40:7,8 57:17 59:21
 analyst 6:11 7:6 9:2,3,13,22
 14:12,17 15:16,17,23 17:23
 31:13 38:23 40:5 41:15,17
 47:12 48:9 50:25 52:9 61:10
 73:12
 analysts 17:11 19:7,10 25:3,
 14,17 33:8 39:15 59:16 63:14
 68:7,9,13
 analytical 9:14
 analyze 53:4
 angle 20:6 53:6
 answering 65:3,8,11
 answers 4:25 8:1 66:3
 appears 71:2
 applies 58:20
 apply 58:24
 approval 39:15 42:21
 approve 14:20

approved 27:19,20 44:2 57:20
 approving 44:1
 approximate 18:16
 approximately 8:19 17:4
 40:14
 April 4:2 54:2,9,18,22
 arrest 4:12 5:16 71:23 72:6
 arrested 72:3,18,20,22
 Arrestee's 13:7
 ART 51:21
 asserting 65:2
 assign 33:18
 assigned 35:9
 assisting 9:19
 assume 36:2
 attempting 58:4
 attempts 5:19
 attendees 61:21
 attention 20:15 32:7,15,17
 Attorney 75:2
 attorneys 33:14
 authority 19:15
 average 17:7
 aware 14:3 22:25 25:21 31:8,9
 32:20 33:10 34:14 45:8,13,20
 48:3 49:10,12,14 55:8 59:5,10
 60:6,8 67:22 70:13 71:7,13,15
 72:6 73:24 74:15,18

B

back 12:23 17:14,19 26:18,19
 27:11 36:9,19,22 37:6,8 41:9
 43:4,5,17 44:17,22,24 45:1
 47:16 48:7,25 50:5,7,9,10
 52:25 54:17 55:5,6 59:4,16,20
 62:21 67:9 71:17,19 75:7
 background 69:8

backgrounds 9:18
 bad 16:12 26:25 34:11 49:20
 based 35:21 45:14 64:2,4
 67:25 73:2
 began 11:7 33:21,25
 begin 4:14 10:2
 behalf 7:23
 beneath 35:25 36:7
 beneficial 41:8
 big 66:7
 biggest 21:21
 Bills 74:6
 binding 8:2
 bit 10:6 34:25
 blurry 16:13
 body 24:8
 borrow 60:21
 bottom 36:13 63:19
 bound 51:1
 break 6:4 12:17 43:2 50:2 55:2
 65:24 71:16
 breaks 6:2,8
 brightness 20:12 23:15,16
 bring 8:10
 broader 45:13,16 46:5
 bullet 11:5
 Bussa 74:12

C

call 22:19 24:4 26:1 36:23
 called 4:5 36:3
 candidate 38:8 39:19 40:2
 candidates 14:16 22:9 26:21
 27:17 36:24 38:10 39:23
 capacity 7:6

Captain 74:9
case 19:17,19
cases 38:3 72:1,2,3
cell 6:19
centers 9:3
certificate 69:22
certification 69:15,19,20,24
certified 69:17,18
Chadwick 74:6
change 23:16 60:17
changed 30:14
channel 74:7,13
charge 27:8 44:8,9
choose 14:17 24:21
choosing 35:14
chose 39:24
chosen 38:25
city 4:11 7:2,17,21,24 8:2
city's 38:3
CIU 5:12 14:11 50:10,19 53:4
 56:8 57:14,20 68:4 69:17,25
clarification 5:3
clarify 18:4 20:25 43:7
clear 4:23,25 5:4,8,24 18:1
 35:1
close 6:20
color 20:19
comments 48:17
common 47:5
communicate 40:17
communicating 54:23
companies 11:19
company 11:12,15
compare 38:8 39:4 49:15
compared 5:23

compares 5:19
comparing 22:8 48:15
comparison 38:12,19 39:8,12
 48:10,12,25 49:3 59:19 68:21,
 25 69:5,15,17 70:1,8,23
comparisons 69:7 70:4,5
compelling 66:3
complete 16:20 69:22
computer 5:18
concerns 18:12
concluded 75:12
conduct 31:18 46:11 47:12,13
 48:10 53:17 57:24 59:21
 73:17
conducted 49:3 69:13 73:21
conducting 31:9 48:24 52:9
 58:21
conducts 49:6,12 58:25 61:13
confidence 26:15 34:23,25
 35:2,3,6,7,8,16 36:2 37:17
 44:17
configuration 23:4
confirm 14:18,19 31:23 56:25
confirmation 57:17 59:3
confirmed 14:15 27:18
connected 22:5
connection 4:10 68:6
consent 42:19
consist 25:9
constitute 54:20
constrained 51:23
content 61:3 69:2,4
contract 11:12
contracted 11:22 12:7
control 9:7,9
conversation 66:1

convicted 71:24 72:4
Corporal 62:24
correct 7:18,21,24 8:2 11:10,
 17 12:5,9 13:11 14:4,7 15:6,
 24 19:22 21:13,16 29:13
 30:23 31:3,24 32:25 35:19,20
 41:22 42:17 43:8,12 45:3 46:7
 51:3,7,12,13 52:2 53:12,17
 54:3,15 55:20 58:22 59:1 60:7
 61:4 62:15,19 65:13 68:10
 71:8 72:19,23 73:3,6,12
corroborate 58:9,15
corroboration 58:16
Coulson 30:4
counsel 38:2
counted 18:19
court 4:19 12:20 55:6 57:5,7
 62:8 64:21 66:9,18 71:20
 75:1,10
cover 51:10
covers 9:5 51:11 69:10
Cox 74:9
create 14:21 17:17 40:21
created 40:20
creating 31:2
CRI 51:3
crime 5:12,13 6:11 9:2,7,9,13,
 22 14:6,11,12,17,25 15:5,16,
 23 16:2,21 17:9,11,23 18:8,
 11,24 19:1,7,10 21:18 23:11
 24:19 25:3,14,17 27:16,17
 28:16 30:21 31:12 32:4 33:18,
 20,24 38:20,23 39:21,25 40:5
 41:10,15,17,19,23,24 42:6,18,
 20,22 43:1,7,10,11,17,18,21,
 24 44:12,14 45:2,11,17,20
 46:18,21,24 47:5,7,13 48:4,6,
 9 49:4,21,23 50:19,24,25
 51:2,3,14,18,20 52:9,10,12,21
 53:10,14,23 54:6,12 57:22
 58:2,10 59:6 60:3 61:6,10
 63:14,16 64:1,5,11,14,15
 66:13 67:1,10,21,23 68:3,9,

13,15,16,20,25 70:3 71:10,13,
14 73:12,14

criminal 9:15 38:2 57:16

crop 23:13,23 24:5,10,13

cropping 23:14,19 24:15

Cunningham 5:6 6:18 7:4
8:14 10:9,17,19,22,24 12:19
32:1 35:18 37:2 43:2 50:3
56:3,12,16,21,24 57:5 60:1
66:5 73:9 74:24 75:2,3

current 6:9 8:21 14:4 19:2
32:7,18 49:13 59:6

custom 33:3

D

D'S 5:13

dark 23:18

darkened 23:18

darker 20:21

data 13:24 14:1 24:25 33:10

database 5:24 14:3 33:4
45:14,16,18 46:5,7 49:8 57:19
68:17

Datworks 11:16,17,22,25
12:4,7 13:8 14:7,14,15 23:4
24:3,6,10,13,14,15,17,22
26:18,25 34:7 35:15 45:17,21,
24,25 46:2 49:7,10

date 27:14 32:15 39:21 51:6,7,
12,14 55:19 75:7

day 27:20 32:16

December 55:19,25

decide 17:22 42:23 43:7

decided 24:1

decides 42:22

deciding 18:5

decision 18:23

decisions 19:13,15

decline 19:8

declined 18:11

declining 18:20

defendant 7:17

defendants 72:17

defense 33:14 38:2

definition 35:18,22

definitions 5:11,24

demographic 39:20

density 20:10

department 5:11,12 8:6,22
14:25 52:22,23 63:9

departments 71:11

Depends 26:20

Deponents 7:21

deposing 4:10 7:1

deposition 6:6,12,16 7:10,17
8:4,13 62:21,24 68:1 75:12

depth 69:6

designated 7:9,23

detail 53:7

detective 16:22 17:14,20
30:22 33:16 37:21 40:17 41:9
42:5,11,13,15 43:18 44:4,5,7
49:19 74:12

detective's 43:22,25 44:3

detectives 31:5 41:22,25 42:2,
16,18,24 51:3 52:12 59:8
63:17 71:1,5,13

detects 58:8,14,20

determination 38:9

determine 21:18,23 22:2,22
40:10,24 53:18 60:5

determines 40:16

determining 29:9

Detroit 4:1,11 5:12 7:2,17,24
8:6,22 63:8,9 73:3,5

differences 31:18

differentiates 68:7

dim 20:1

directive 11:8

directly 37:16

disclaimer 54:19,23 55:1

disclosure 38:3,4

discretion 19:7,10

discusses 52:2

discussions 68:1

display 35:16 37:12

displayed 37:14

distinctively 22:8

distributed 50:24

document 7:15 12:14 50:16
55:15 62:11 73:19

documenting 70:4

documents 8:8,10 51:23
66:22

Donald 74:12

don't 26:11 49:24 55:11

door 23:22

DOT 26:1

DP 5:12

DPD 5:11 6:14 8:23 9:1 10:2
11:7,8,12,21,24 12:2,7 13:13,
15,18,21 14:6,9 15:2 18:12
21:23 25:24 28:11,18,21 29:1
30:16,19 31:5,18 32:7,22
33:2,13,17,25 44:25 45:24
46:1,9,14 52:6,20 54:18,22
57:23 58:24 60:10,12 61:6
62:18 63:9,13,25 64:6,17 65:7
67:5,7,10,17 69:10 71:11,13,
22 72:1,18,22 73:17

DPD's 12:4 13:8,24 26:18 30:7
54:2 59:24 70:17

driver's 14:4 49:13

due 18:12
 duty 46:10
 DVD 48:9
 DVD's 11:9

E

ear 22:5
 earlier 62:10,22
 ears 38:16
 Eastern 9:5
 education 69:14,25
 effective 51:6 55:22
 effort 31:9 72:3
 eight-hour 17:5
 email 40:22
 embedded 9:5,21
 employ 18:24
 employee 18:24 38:20 39:25
 employees 48:4 68:15,16
 employer 8:21
 encompass 9:15
 end 39:14
 engage 38:12
 entail 38:14,24
 entails 73:14
 enter 72:9
 entire 49:8
 environment 20:23
 essentially 16:5 17:12 21:20
 38:18
 evaluate 53:4,10,14
 evaluating 53:24 54:13
 event 57:16
 everybody's 39:21 68:6

EX-1 7:12
 EX-10 66:8
 EX-11 66:17
 EX-12 72:11
 EX-2 10:8
 EX-3 12:16
 EX-4 29:15
 EX-5 29:23
 EX-6 50:14
 EX-7 55:13
 EX-8 62:2
 EX-9 64:20
 exact 8:18 15:22
 EXAMINATION 4:6
 examine 38:8
 examined 49:13
 examiner 21:18 24:1,5,13,21,
 24 36:4 38:6 39:5 40:10,16,19
 41:1,13 46:9 53:23 58:8,9,10,
 14,15,16,20 70:22
 examiners 53:4,10,14 54:12
 58:3,18 59:6 70:25
 Excel 15:11
 exclude 20:21
 exculpatory 33:15
 excuse 9:6
 exhibit 7:11 10:5,14,25 12:11
 29:12,14,25 36:9,10 50:13
 55:12 61:25 62:6,22 64:19
 66:6,16 72:9,14
 exist 25:21
 existence 26:6
 expected 51:4
 expired 14:3 32:8,13,18 49:13
 eyebrow 22:6
 eyebrows 38:16

eyes 22:6,11 23:1 38:16

F

face 8:5 11:7 14:14 20:4 22:24
 23:23 24:8,17 38:18 39:1
 53:6,7,8 56:25 65:10 69:5
 faces 35:10
 facets 30:17
 facial 5:17,22 11:18 12:8
 16:19 20:8 30:21 31:14 33:13
 35:3,9 38:15 44:10 46:11
 51:11 52:9 55:18 56:6,9
 57:14,24 63:10 67:14 68:6
 fact 27:17 71:5
 factor 18:4 23:2 32:24
 factors 18:7 19:24 21:5,15,21,
 25 22:18,19 23:8 53:6,8
 fail 34:7
 failed 10:25
 fair 22:19
 fairly 6:7
 fall 9:25
 familiar 12:14,25 34:23 51:4
 55:15 66:11,20
 FBI 21:22 45:9,15 64:15,16
 65:7,8,18,24 66:4,14,23 67:4,
 14,25 68:23 69:6,22
 FBI's 12:2
 features 20:8 21:12 38:15,18
 39:1
 fed 5:22
 felt 47:19
 Ferndale 73:1,6
 file 40:23
 filed 74:2
 final 40:6
 find 54:18

finish 4:21,22
 five-minute 50:1
 flip 30:1 54:17 56:7
 floor 9:3
 foot 22:13
 form 15:12 41:25
 formal 34:5 57:18 68:18 73:22
 forwarding 59:8
 free 6:2
 Freedom 66:24
 frequently 40:14,15
 freshly 40:1
 FRT 5:17 10:2 11:13 12:2,5
 13:24 14:1,6,10 16:2 17:9
 18:11 19:8,22,25 21:1,6,13,19
 22:23 23:10,12 24:2,19 25:14,
 18 26:25 28:19,22,24 29:2
 31:5,19 33:17,18,20,21,24,25
 37:22 38:6 41:13,20,22 42:9
 45:3,12 46:4,9,21,24 47:8,10
 48:6 49:6,23 51:15,18,24
 52:20 53:12,17,24 54:3,19,23
 57:22 58:21,25 60:10,12
 67:13,24 68:3,7,9,13,14,16,
 22,24 70:5,11 71:11,14,22
 72:4 74:15

full 17:5 21:9 56:20

functions 60:8

G

galleries 26:19 30:12 36:21,23
 gallery 35:5 36:14,25 37:24
 38:2 59:22
 gave 64:5 73:9
 Geez 74:1
 general 35:24 69:12
 generally 65:21
 generate 25:23 26:3,12

generated 32:10,15 70:21
 give 4:22,25 42:21 48:8 62:7
 63:25
 glasses 21:7
 good 4:16 10:17 33:7 38:10
 39:3 63:11 69:8 75:7,9
 governing 51:18
 Great 4:8 29:22
 greater 21:15
 ground 4:15
 guess 10:11 25:8,12 26:20
 30:12 32:13 36:24 42:18,25
 46:2 62:16 65:20,22 67:25
 68:23 72:15

guided 51:24
 guiding 51:20
 guy's 16:15

H

habitually 32:22
 Half 8:20
 happen 16:17 40:13 59:11,14
 happened 9:18 73:18
 hat 20:8
 head 18:10 58:5
 health 15:6 45:11 47:5 64:1
 70:3
 hear 27:9
 held 8:25
 helpful 52:4
 history 9:16
 hit 24:23 35:5
 homicide 9:4,5,17,20 15:21
 honest 54:4
 honestly 28:9 31:21 44:20,21
 72:20

hour 8:9,20 17:5,8
 hours 6:6 17:8 68:24
 house 10:3 29:6 33:17
 Howard 30:3 64:4
 Howard's 30:11 62:21,24
 Howell 4:4 6:11 7:8
 Howell's 7:5
 hurt 21:10

I

idea 18:19 23:7 24:20 29:8
 30:15 38:5 70:19
 identification 7:12 10:8 12:16
 29:15,23 50:14 55:13 62:2
 64:20 66:8,17 69:5 70:6 72:11
 identifications 42:9
 identify 6:8 32:24 33:5 71:2,23
 72:14
 identifying 30:23,24
 II 6:11
 illumination 20:15,17 53:7
 image 5:21,22 12:5 14:10,14,
 15 16:12,19 18:1,4,12 19:11,
 21 20:12,18 21:21,23 22:1,22
 23:20,22,25 24:2,6,7,11,13,
 14,17,23 25:11 26:20,25
 34:11 35:4,16 36:12,23,25
 37:8 38:8,11 39:4,5,10,18,19
 40:8,9 41:19 42:23 43:11
 45:3,12 46:4,13,18,19 47:11,
 14,16,19 48:16,17 49:15 53:6,
 7,8,16 59:19 61:10 70:22
 images 5:19,24 13:13,15,18,
 21,22 25:10,12 35:10,13 42:6
 44:16,24 45:1,15,21 47:7
 50:10 53:5,11,25 54:13,14
 57:16 68:21
 immediately 17:14,19 33:18
 impact 21:15
 impetus 44:11

important 70:10
in-depth 70:7
in-house 33:21 42:20 43:8,14
 45:17,21,23,25 46:1,21,24
 48:9 67:25 69:10
incidents 9:17
include 26:12 39:17 40:6 53:5
 57:16
included 28:6
includes 35:5 39:18
including 38:15
inclusion 54:19,22
independent 48:10,24 49:3
 59:21
individual 34:18 40:5,24 51:2
 59:16 67:6
individualized 39:2
individuals 63:15
inform 7:7
informally 48:4
information 25:18 26:13 28:6,
 8 29:2 33:13 39:20 47:23,25
 66:24
initial 41:15,17
initially 16:4
input 5:18
instance 16:14 23:21 25:6
instructs 5:7
integrates 11:18
integrity 10:25
intel 5:12 14:6,11 15:16,23
 16:2,21 19:1,7,10 21:18 23:11
 24:19 25:17 30:21 33:18,20,
 24 38:20 39:25 41:19,23,24
 42:6,18,20,22 43:1,7,10,11,
 17,18,21,24 44:12,14 45:2,17,
 20 46:3,19,21,24 47:7 48:4
 49:4,21,23 50:24 51:3 52:12
 53:10,14,23 54:6,12 57:22

58:10 60:3 61:6 63:16 64:5,
 11,14,15 66:13 67:1,10,21,23
 68:3,15,16,20,25 71:10,13,14
Intel's 59:6
intelligence 5:13 32:4,5 50:20
 51:2
intel's 51:21
interested 30:23 31:2
interface 13:8 35:16
internal 73:21
internet 50:25 54:10
interrupt 4:20
introduce 7:11 10:5 12:11
 29:12,25 36:8 50:13 55:12
 61:25 64:19 66:6,15
introductory 4:14
investigation 5:14,15 9:20,23
 15:1 18:9 40:24 44:9 71:22
 73:15,17,22,25 74:4,7,10,13,
 16,19
investigative 5:21 14:16 28:3
 31:1,2 32:10,14,23 33:2
 38:10,25 39:5,11,19 40:4,19,
 23 41:1,6,10,11,18 47:21,24
 48:11,15 49:18 57:18 58:8,14,
 21,25 59:4,7,11,14,20,23
 70:18 71:1,2
investigator 14:9 15:3
investigators 9:19 59:9
involve 64:16
involved 58:18 74:3
involvement 73:14
issue 56:23
issues 56:20
item 7:15
items 35:10
I'm 42:15 75:6

J

Jennifer 30:4
Judging 30:10
Julia 4:8,12
July 28:17 72:7,18,23
jump 44:22
jumping 26:18
jumps 56:13

K

Kahn 4:7,8,12 6:22 7:7,13
 10:5,14,18,20,23 11:2,3
 12:17,21,24 29:12,16,24 32:3
 35:20,23 36:8,11 37:4,7 43:5,
 6 50:1,6,15 55:2,7,14 56:4,15,
 19,22 57:8,9,11 60:2,25 61:2,
 23 62:4,6,9 64:22 65:25 66:6,
 15,19 71:16,21 72:9,13 73:11
 74:22 75:5,9,11
kind 18:23 33:1 66:7
knew 30:6 36:3 74:2
knowledge 49:11 64:1
Krystal 30:3,11 62:21 64:4

L

labeled 62:16
lack 48:12
large 18:18
larger 37:9 46:7
lawsuit 4:11 7:18 72:15 74:1
lay 4:15 5:10
lead 14:15,16 17:15,25 25:25
 27:4,18,19 28:3 31:1,3 32:10,
 14,23 33:2,7,8 38:10,25 39:5,
 11 40:4,9,19,23 41:6,7,10,11,
 18 47:21,24 48:11,15 49:18,
 20 57:18 58:9,14,15,21,25
 59:4,20,23,25 60:1,3,5 70:18,

21 71:1,2
leads 5:21 39:19 41:2 59:7,8,
 11,14 60:14
leave 17:25
led 5:16 60:18
letters 37:10
level 53:6
license 14:4 32:17,18,19
 49:13
licensed 45:13
licenses 32:20
Lieutenant 74:6
light 23:18
lighter 20:21
lighting 20:1,18
lighting's 48:19
limit 23:5
limitations 69:8
limited 6:6
lines 62:25 63:21
lineup 74:18
Link 15:9
lip 22:4,5
lips 38:17
lists 7:20
live 12:8
lobes 22:5
local 4:13
location 9:18
long 4:11 8:23 9:8 15:20 16:25
 17:6 27:22 33:1 44:1
looked 27:24 40:2
loud 29:20 53:2 56:9 63:20
love 27:9
low 46:14

lowest 44:19

M

made 57:18
main 9:3
maintain 69:14
maintained 13:11
make 4:18 10:19 14:13 19:15
 22:8 23:12 25:1 35:1 38:9
 39:2 49:17 70:7
making 70:5
March 11:24 28:6 47:2 49:1
 51:17,21 53:23 54:12
mark 16:24 56:24
marked 7:12 10:8 12:16 17:6
 29:15,23 50:14 55:13 62:2
 64:20 66:8,17 72:11
markings 38:17
mask 16:14,15 21:9 48:21
match 26:10,13 32:25 33:5
 35:4,17 40:6,10,17 70:11
matches 5:20 26:19 35:15
 36:19,21 37:24 40:2 59:22
materials 8:8 61:15 64:16
 65:3,5,7,8,17 67:5
matter 42:11
means 5:12,13,17 31:11 35:14
measures 22:21 23:8
media 9:16
meet 4:8,9
member 16:2 45:11 46:3
members 52:10,21,23 54:6
 63:16 68:12
memory 69:5
mental 15:5 25:3,14 48:6 64:1
mentioned 21:25 22:12 24:5
 25:1 44:6 50:8 65:6 74:20

mentioning 30:11
mess 58:13
Michael 72:7,18,22
Michigan 4:1 5:13 62:16
midnights 9:3
mind 31:12
mine 57:4,14
mini 29:17,19 30:1
minimum 35:2,14
minute 12:17 52:4 55:3 71:17
missing 56:14
Mission 32:2
mixed 10:6
moles 38:17
moment 37:3
months 8:24 9:11
morning 8:11
morph 39:11
morphological 38:12,19 39:1,
 7,11,12 49:3 68:21,24 69:7,
 11,15,17,25 70:4,8,23
move 31:12
moved 9:4 15:21
MSP 5:13 13:11,18,21 19:11,
 16 25:15,17,19 26:4,5,7
 28:11,18,21 29:1,7,10 30:4,5
 31:18 41:21,23 42:1,2,9,19,
 21,24 43:8,11,16,17 44:15,23
 45:4,6,12 46:4,6 47:7,11,14,
 18,23 48:1,4,7,17,25 49:6,12,
 15 50:9,10 53:16 54:13 57:18,
 24 58:3,25 59:4,8,12,15,17,
 20,25 60:6,9,10,11 62:15,18,
 20 63:2,7,8,25 64:6,13 68:1,
 23 69:9 70:13,18 71:7
MSP's 14:1 25:4 28:24
MSPS 30:17
mug 32:16

mugshot 32:11 57:16

Mugshots 13:7

multiple 6:16 21:15 41:1

N

names 10:10 39:21

Nate 75:5,6

Nathan 4:4 6:11

NDA 64:18,23,25 65:1,2,6,12, 24 66:1

NEC 37:9 49:7

needed 35:3 57:17

negative 27:4

network 12:25 57:15

news 72:8 74:1,17,20

Nice 4:8,9

ninth 9:6

non-fatal 9:16

normal 7:10 37:12

nose 22:4 38:17

nostrils 22:4 38:17

notes 8:10 61:21,24 67:7

notice 7:16

notify 71:5

number 7:11,14,15 10:6,14 12:11 14:16 23:1,6 26:22 27:16 29:13,14,19,25 34:16, 20 35:8,25 36:1,9,10 39:21,23 40:13,15 50:13 55:12 56:8 57:12,13 58:6 61:25 64:19 66:7,16 72:9

numbers 37:16

numeral 56:8 58:6

O

object 5:6

objection 7:5

objective 22:21 23:8

obligations 38:4

observed 22:10

obstructions 48:19

Occluded 20:8

October 5:15

offer 28:18 67:21

offered 52:14,16,18,19 61:11 63:15

office 47:10

officer 27:6,8,15 28:4 30:22 40:18 44:8,11 73:1

officers 63:9,17

official 72:16

officials 68:3

Oliver 72:7,18,23 73:5,14

on-call 17:11

ongoing 14:25 69:14,25

online 15:11

op 38:3 50:19

open 56:7

operating 8:5 50:19,22

operators 17:9

optimal 22:13

option 52:24

opts 47:10

order 5:23 10:21 11:1 21:23 60:5 66:3 75:1,2

original 40:2 48:8

outline 16:5 21:25 42:7

outlines 27:14 61:3

output 5:20

outsourcing 28:11

oversight 74:3

P

p.m. 4:2 75:12

pages 29:17 56:14 62:1

paragraph 57:13 72:21

parole 4:12

part 18:8 25:5 33:9 38:3 39:22 56:21 65:17 70:9

parts 30:8,9,11,19 49:10

past 60:18 66:1 67:18

Pat 29:13 61:1,24 74:22

pay 20:15 32:7,15,17

peer 14:18 17:15 27:18 31:20 40:21 59:3,18,21

people 15:11,24 23:13,22 33:8 49:21 67:9 68:4

percentage 40:13

perform 12:5 53:23 56:8 57:14,22 70:23

performing 53:8,12

person 30:23 33:6 35:13 39:24 41:10

person's 48:20

personnel 18:12 23:11 41:19 47:7 48:6 52:6 61:6 62:18 63:13,25 64:7,11,15,17 65:7 67:5,7,10,23 68:20,25 70:3 71:13

pertaining 65:16 66:3

phone 6:21 75:6

phonetic 74:7

photo 5:18,21,22 20:2,6,20,24 21:12,19 22:3,21 23:10,11 30:10,22 31:13 32:7,9,10,14, 15 36:7 37:10,16 42:16 48:11 71:1 74:18

photos 13:1 14:4 22:9 23:5 32:22,25 33:3,5,7,9 34:11 35:25 37:9 57:15

pick 41:18
 picked 73:5
 pictures 35:6
 pixel 20:10 22:12
 pixelated 16:14 48:19
 pixelation 21:21
 pixels 22:13,16 23:1,6
 place 7:5 47:2
 plaintiff 4:5 7:20 72:17
 platform 11:17,25 13:8
 point 11:5 49:19
 police 5:12,14 8:6,22 32:2
 44:11 62:17 63:8,9 73:1,5
 policies 14:24 33:24 50:12
 51:17
 policy 8:5 10:20 11:4,8 14:13
 19:1,2 25:2 29:9,11 47:2 50:9
 51:20,23 53:21 54:3,7,19 58:2
 70:17
 poor 47:17 48:19
 populates 15:13
 Position 6:10
 positions 8:25
 positive 17:15 25:25 27:18
 potentially 33:14
 Powerpoint 61:19,20
 Powerpoints 61:24 66:22
 PR 53:11
 practice 29:1,4 47:5 48:24
 49:1 52:20 59:6
 practices 71:8,9
 precinct 9:6
 preparation 8:4
 prepare 8:13 70:3,13
 prepared 7:8
 prepares 70:13

present 17:9
 presentation 62:15,18 63:25
 64:6
 preserve 10:25
 pretrial 38:3
 Pretty 25:13 49:17
 prevent 6:23
 prevents 65:3,8,10,22
 previous 68:1
 PRICE 72:12
 prime 39:15 46:3
 printed 56:17 60:23 66:10
 printer 57:9
 printing 56:19
 prior 33:20 51:14 53:8,11,15
 54:18,22
 pro 22:21
 probable 54:20
 probe 5:21 12:5 17:25 18:1
 21:12 23:5 24:1 30:22 31:13
 38:8,11 39:4,19 40:9 42:6
 45:2,20 46:13,19 47:19 48:10,
 15,16,17 53:5,8,11,15,16,25
 54:13,14 59:19 68:21
 procedure 30:5,7
 procedures 8:6 50:19,22
 proceed 7:9
 process 14:9 15:2 16:5 17:16
 18:2 23:11 26:1 28:24 29:2
 30:17 31:22 39:7,9,22 40:20
 41:7 43:8,14,16 47:14 56:5
 59:18,24 60:7,8 69:13 70:9
 71:9
 processed 16:22 17:10
 processes 43:11
 processing 17:1
 procured 10:2
 produce 5:20 7:21 26:14

program 5:18 18:2 19:11 22:9
 69:12
 prosecutor 33:16
 provide 8:1 12:4 41:1,11
 52:20 60:10 64:16 70:15
 provided 37:21 38:2 52:6
 60:9,12 63:2,7,8 65:4,7 66:13,
 14,23
 provision 34:11
 purchased 12:7
 pursuant 4:13
 put 56:12
 putting 23:25 31:13

Q

quality 18:4,12 19:21 21:19,23
 22:2,12,21 25:11 46:13,19
 47:15,17,19 48:17,20 53:5,11,
 15,24 54:14 70:5,11
 question 4:21,23 5:8 6:3
 13:20 31:11 33:1
 questions 5:2,3,6 65:3,8,11,
 20 66:2,3 74:21,23,24
 quick 71:16
 quickly 6:7 12:18 16:22

R

race 21:3
 raise 31:23 32:4
 range 22:13
 Rank 49:7
 rationale 18:20
 reach 25:17 28:18
 reached 28:21
 read 7:15,16 11:5 29:18,20,21
 30:2 31:22 52:4 53:1,2 56:9
 57:12 58:7,11,13,18 62:25
 63:20 65:15 72:22 74:1

Realtime 9:3
reason 46:16 65:2 68:15
reasons 34:13 45:11 46:3
rec 8:5 14:14 55:18
recall 29:5 52:19
recalled 17:12 46:11 47:12,13
receive 15:25 24:7 25:3,25
 30:22 32:20 33:20 48:6 59:25
 61:6 64:11 67:23 68:9,20,25
 69:19,25 70:18,20 71:14
received 15:24 25:7 27:14,18
 47:16 52:24 63:13 71:15
receives 16:2,21 33:2 58:24
 59:16 60:1,3
recognition 5:17,22 11:7,18
 12:8 16:19 30:21 31:14 33:13
 35:3,9 44:10 46:12 51:11 52:9
 53:9 56:6,9 57:14,25 63:10
recognize 50:16 62:11
recognized 66:25
record 6:9 7:5 12:20,22,23
 37:2,5,6 43:3,4,5 50:4,5,7
 55:4,5,6 56:13 71:17,18,19
 74:25
recorded 18:21 39:8,12
refer 13:3 50:21 65:18
referring 65:9
refers 5:11,14 35:8
regard 20:19
related 65:17
reliability 19:21,25 21:1,6,16
 26:14
reliable 21:13 26:9,13 70:23
remember 8:18 9:24 15:4,20
 18:9 25:7 28:10 34:1,3,4
 39:22 44:20,21 47:22 49:2
 51:19,22,25 52:15 54:4,16,21,
 25 55:9,11 60:11,15,19 61:14,
 16 62:20 63:14 64:8,12,24
 66:21 69:9 73:20

remind 28:15
repeat 13:20 33:1
rephrase 5:3
report 14:21 17:17 25:19,23
 26:2,3,5,7,9,12,16 27:12,13,
 14,16 28:5 39:14,17,21 40:20,
 22 57:5 70:7,15,20
reporter 4:19 12:20 55:6 57:7
 62:8 64:21 66:9,18 71:20
 75:1,10
reports 25:21 27:22,24 42:7
representation 36:13
representing 4:13
reproduce 65:19
reproduction 65:16
request 14:11,13,23 15:24
 16:2,4,6,20,21 17:2,10 26:5
 27:15 28:11 41:22 43:22,25
 44:3,4,5,11 57:18,19 58:3
 65:16 66:24 70:17
requested 7:21 37:21 40:18
requester 14:22 16:18 27:8
 39:16,18 48:8 54:24
requesting 17:14,20 44:4 56:6
requests 44:9
require 18:23 50:9 53:14
 54:19,22 59:3
required 33:25 52:8 61:3,9
 68:25
requirement 58:20,24 69:1
requirements 69:14
requires 53:10
requiring 50:9
reread 8:5
resolution 65:18 70:22
response 9:12 66:23
responses 47:16
responsibilities 9:13

responsible 9:14
result 16:13 17:14,19 21:13
 39:7,10 42:17 48:25 59:17
resulted 71:23
results 16:22 19:21 20:1 21:1,
 6,16 25:15 33:14 34:8,15,20
 35:5 36:16 38:6 41:14 42:11
 43:17,18 48:6 50:8 54:19,23
 68:21 71:3
retained 37:19,20,25
return 17:13,18 32:17 34:7
 35:15 70:25
returned 34:15 35:17 36:16
 59:7,12,14
returning 32:23
returns 32:14 34:18 47:18
review 10:20 14:18 17:16
 18:23 31:20,21 32:22 33:3,7,
 8,25 38:24 39:25 40:2,6 46:19
 48:9 50:8,10 53:4 59:7,11,13,
 14,17,18,22 60:6 73:17
reviewed 38:19 40:4,21
reviewer 27:18 39:4 40:2
reviewing 8:7 28:7
revised 51:7,12 55:19
revisions 55:24
role 6:14
Roman 56:8 57:12 58:6
roughly 9:11 10:23
row 15:13 36:20
rule 4:13 57:12
rules 4:15
run 12:8 14:10 16:7,9,15,16
 17:22 18:5,11,20 19:8 22:11
 29:6 33:18,22 34:11 37:19,25
 41:20 43:21,25 44:6,10,12,23
 45:2,3,12,18,24 46:4,21,24
 49:23 53:19,20 58:4 61:10
 68:16,18 71:10

running 13:24 14:1 24:25
28:24 30:10 33:25

runs 14:6,14 30:21

S

scale 26:14

scene 28:16

score 35:3,6,8,14,16 37:17
44:19

scores 37:19,21

search 12:5 13:24 14:1,10
15:3 16:7,9 17:13,18,22 18:5,
11,20 19:8,22 21:19 22:23
23:10,12 24:2,19,23,25 25:18
27:1 28:7,24 29:10 30:21
31:6,10,19 34:18,21 37:19,22,
25 38:7 40:18 41:13,14,15,17,
20,22 43:21,24,25 44:2,5,10,
12,23 45:3,12 46:4,7,12,21,24
47:18 48:7 49:6,8,23 53:9,12,
17,24 57:19,23,25 58:4,21
59:1

searches 14:7 29:6 32:21
33:18,25 37:20 47:8 49:12
54:3 57:15 68:22

section 51:9,14 56:13 61:3

seeking 26:6

select 41:7

selected 39:3,5 40:5,9 59:20

send 14:21 15:5,8,12 17:13,
17,19 19:10,16 41:19,21 42:8,
16,20,24 43:8,10,14,16,24
44:2 45:2,12,14,25 46:3 47:7,
10 49:19 54:13 57:24 58:3
59:16

sending 45:20,21 46:18,22,25
53:15

sends 43:18 48:1

sense 16:23

sentence 57:21

separately 42:24

September 19:6

sergeant 27:19

set 26:22 34:16 36:16,17,18
38:6 40:1 44:16 45:1

sets 44:24

setting 23:4

shade 20:22

shadows 20:4

shale 57:14

shape 22:4,5,6 38:16

share 29:1

sheet 70:20

sheets 70:3,10,14,17

shift 17:5

Shinola 5:14,16 9:22 73:24
74:3,9,15,19

shoot 63:4

shooting 9:16

shot 32:16

Show 57:5

sides 56:25

sign 19:13 58:17

signed 64:18,23,25 65:6

similar 35:10,11 69:21

simply 59:22

size 53:7 66:10

skin 20:14,18,19,25

skull 22:6 38:16

slides 61:19 62:15

Smartsheet 15:9,12,13 41:25

snap 13:3,6,9,11,13,15 14:3
25:6,8,10 49:8 57:16 62:14
69:11

social 9:16

software 11:13 33:23

solicitation 12:12 36:10

someone's 20:18 33:7

SOP 50:21,24 51:14 55:18,24
57:22 59:3

sort 25:12

sound 4:16

sounds 45:14 64:4

speak 7:2 8:13 23:13 31:5
49:22 74:6,9,12

speaking 8:17 53:21

specific 11:9

speculate 10:11

spend 8:7,17

spoke 8:14

sponsor 58:10

squad 9:5

staff 69:17,25 71:10

standard 8:5 29:1,4 50:19,22

start 19:5 28:11 29:18 63:1

started 28:15 33:17

starting 63:6

starts 56:8 63:2

state 5:13 11:8 26:9 32:2
62:17

state's 57:19

statements 30:3

statewide 12:25 13:14,17
57:15

static 12:5

stop 41:7 63:22

store 23:20,21

stored 5:19,24

stories 72:8

story 74:17

strategies 9:7,9

structure 38:16
stuff 15:19,22 25:11
sub-optimal 22:15
subjective 22:19
submit 14:11 18:3 21:19 22:22
 24:3,23 28:5
submits 14:13
submitted 28:2 38:9 39:18
 48:16
subsection 52:1,5,25 53:1
 56:2,16 60:20
suing 72:17
suitability 53:5,11,15,24 54:14
suitable 22:22 23:10,12 53:18
super 44:6
supervisor 14:19,20 17:16
 19:14,16 28:7 31:20 39:14
 42:21 44:1,2 57:20 58:16,17
 59:3,7
supervisors 40:21 44:6
supplement 26:2 27:14
supplemental 25:19,23 26:3,5
 27:12,22,24 28:5
supposed 20:15 22:1
suspect 14:25 32:23 33:3
 71:23,24
suspects 9:15,19
SWORN 4:5
system 11:8 13:25 14:1 31:14
 34:7 35:4,9,14 45:24 46:1
 57:23

T

table 6:3
takes 5:18 16:24,25
taking 6:3
talk 6:18 43:10

talked 16:3 19:22
talking 22:18 30:13 35:7 44:22
 50:8,12 57:1
technology 5:17,23 11:7,9
 25:4,5 35:4 63:10
techs 47:10
tells 51:18
term 34:23 65:10
termination 39:2
testify 7:23
testifying 6:24 7:6
testimony 60:9
that'd 75:9
theft 5:15
thing 25:12 28:14 36:2 38:25
things 21:25 22:7,10 67:15
thinking 6:23
thinks 35:12
thought 73:19
threshold 34:23,24,25 35:2,7,
 13 44:16,17
thresholds 26:16
throw 48:21
Thursday 4:2 75:8
time 6:17 8:7,17,18 9:22 10:7
 11:8 15:12,20 17:1 26:23
 27:20 39:21 46:11 49:17
 51:24 73:12
timeline 11:5
times 6:16 18:14 40:15 64:9,
 10 71:22
today 4:10 6:24 7:1 8:2
told 35:19 47:13 73:9
tone 20:14,19,25
tool 24:16
top 18:10 58:5 63:2

topic 7:14,24
topics 7:8,20
track 72:1
train 14:17 63:18
trained 14:12 25:14,17 38:23
 46:9 68:3,6 70:3,25 71:5
training 21:20,22,24 25:3,7,9
 33:20,22 34:5 52:2,5,8,10,12,
 19,20 55:8 60:10,12,14 61:4,
 7,9,13,15,19,21 62:14 63:8,13
 64:11,16 65:11,17,20 66:13
 67:6,14,23,25 68:2,9,13,14,
 19,20,24 69:2,4,6,10,19,22
trainings 64:13 65:19 66:4,24,
 25 67:3,7,9,11,12,13,16,21
 71:10,14
trains 67:17
transcripts 75:7
truthfully 6:24
turn 7:14 11:4 29:17 33:13
 36:9,12 51:9 52:1,25 56:2
 60:20 62:22 72:21
turnaround 17:1
turning 27:11 62:21
type 39:21 70:20
typical 17:1 31:12,16

U

ultimately 5:16 14:20 71:24
 72:4
undergone 67:1,6
understand 4:18 5:2 8:1 13:3
 25:14 30:4,16 49:6 50:21
 73:18
understanding 7:3 70:10
understands 4:19
unique 34:18
unit 5:13 14:6 50:20 51:2

upload 24:3
uploading 24:6
uploads 14:14
urgency 16:23
urgent 16:24 17:6
usable 16:19
utilizing 57:15

V

vary 34:20 44:20
verbal 4:25
vermilion 22:4
version 12:4
versus 29:6 68:7
vet 16:4
victims 9:19
video 12:8
views 41:13
violent 14:25 18:8
visible 36:4

W

wait 4:21,22
walk 8:25 19:24
walking 23:21
wanted 55:12 66:15 75:1
wanting 15:3
warrant 73:2
watches 5:15
wearing 16:15 48:20,21
Wednesday 75:8
WESSLER 75:8
Williams 4:11,13 5:16
witnesses 9:18

words 4:15 35:12
work 9:14 13:24 14:1 15:11
27:16,20 30:5 57:9 60:4 73:16
working 9:2 28:13,16 44:8,9
51:2 68:4
works 24:25 30:7 33:10 41:5
workups 9:15,17
worries 63:5
would've 28:6
writing 27:22
written 51:17 54:2 58:17 61:15

Y

years 8:24 9:4 27:23 60:19