EFiled: Jun 15 2023 11:03AM EDT
Filing ID 70202670
Case Number 303,2022

IN THE SUPREME COURT OF THE STATE OF DELAWARE

KWESI HUDSON, Defendant-Below, Appellant, v. STATE OF DELAWARE, Plaintiff-Below, Appellee.	)))))))))))	No. 303, 2022

ON APPEAL FROM THE SUPERIOR COURT
OF THE STATE OF DELAWARE

UNSEALED STATE'S ANSWERING BRIEF

Brian L. Arban (Bar I.D. No. 4511)
Deputy Attorney General
Delaware Department of Justice
Carvel Office Building
820 N. French Street, 5th Floor
Wilmington, DE 19801
(302) 577-8500

Dated: June 15, 2023

TABLE OF CONTENTS

PAGE

TABLE OF CITATIONS

CASES **PAGE**

STATUTES AND RULES

OTHER AUTHORITIES

NATURE AND STAGE OF THE PROCEEDINGS

On September 24, 2018, a Superior Court grand jury indicted Kwesi Hudson ("Hudson") on two counts each of first-degree kidnapping, first-degree robbery, and terroristic threatening, and one count each of aggravated menacing, first-degree assault, third-degree assault, first-degree burglary, home invasion, attempted second-degree kidnapping, second-degree rape, attempted first-degree robbery, and first-degree unlawful sexual contact.[1] Before trial, Hudson filed a motion *in limine* to preclude expert testimony about DNA test results that relied on probabilistic genotyping.[2] He also moved to suppress evidence related to search warrants that authorized police to obtain his DNA sample and to search cell towers, his cellular phone account, and his Google account.[3] The Superior Court denied these motions.[4]

Hudson's jury trial commenced on December 6, 2021.[5] The State amended the indictment to reduce the charge of first-degree assault to third-degree assault.[6]

---

[1] D.I. 1; A-15 to 22. "D.I.__" refers to item numbers on the Delaware Superior Court Criminal Docket in *State v. Kwesi Hudson*, I.D. #1809009750. A-1 to 14.

[2] D.I. 36; *State v. Hudson*, 2021 WL 4851971, at *1-2 (Del. Super. Ct. Oct. 15, 2021).

[3] *State v. Hudson*, 2021 WL 5505109, at *5 (Del. Super. Ct. Nov. 23, 2021).

[4] *Id.* at *1; *Hudson*, 2021 WL 4851971, at *1; D.I. 39, 45.

[5] D.I. 51.

[6] *Id.*

On December 15, 2021, the jury convicted Hudson of all charges after a seven-day trial.[7] On July 29, 2022, the Superior Court sentenced Hudson to serve a total of 162 years of Level V imprisonment, suspended after 150 years for probation.[8]

On August 25, 2022, Hudson timely filed a notice of appeal, and he filed his opening brief on April 28, 2023, which he subsequently corrected. This is the State's answering brief.

[7] *Id.*

[8] Ex. A to Corr. Opening Br.

SUMMARY OF THE ARGUMENT

I. Denied. The Superior Court did not abuse its discretion by declining to hold a hearing on the admissibility of expert testimony about DNA test results that relied on probabilistic genotyping. The record was sufficiently developed for the court to decide the admissibility of this evidence without a hearing. The expert testimony was supported by appropriate validation and good grounds, and there were no special circumstances requiring a hearing.

II. Denied. The Superior Court did not err by denying Hudson's suppression motion. The State was not constitutionally required to have obtained search warrants to acquire the cell site location information from the cell tower dumps. Nonetheless, the search warrants were not overbroad and were supported by probable cause. And any error was harmless beyond a reasonable doubt because of substantial evidence of Hudson's guilt.

STATEMENT OF FACTS

1. The Attacks

a. L.M.'s Attack

On February 13, 2017, L.M.[9] met her work colleagues for dinner at the Christiana Mall.[10] Around 7 p.m., L.M. left the mall and drove home to her Claymont residence at the Top of the Hill Apartments.[11] L.M. parked her vehicle and started walking toward her apartment.[12] While she was walking and texting on her cell phone, L.M. heard footsteps behind her.[13] L.M. saw and felt a gloved hand go over her face, and she felt a gun press against her stomach, which she subsequently noticed was black.[14] Her assailant, who was dressed entirely in black with a black ski mask over his face, grabbed her cell phone and told her that she was going to come with him.[15] L.M. described the man as white or lighter complexioned

[9] The State has assigned "L.M.," "S.C.," and "J.B." as pseudonyms for the non-party victims due to the nature of this case pursuant to Supr. Ct. R. 7(d).

[10] A-88.

[11] A-87 to 88.

[12] A-88.

[13] A-89.

[14] *Id.*

[15] A-89, 92, 96.

with gray or hazel eyes, 5'8" or shorter in height, and around 180 pounds in weight; she said his voice was unique with a twang, possibly older and with an accent.[16]

The man turned L.M. around to return to the parking lot, and he told her that she was going to walk him to her car and that he's going to withdraw money from the bank.[17] Once they reached her vehicle, the man forced L.M., who had entered the vehicle from the driver's side, to climb over the center console and into the passenger seat.[18] He then ordered L.M. to kneel on the passenger seat while facing the rear of the vehicle and to remove her pants and underwear; L.M. complied.[19] He had trouble starting the vehicle and adjusting his seat.[20] After L.M. assisted him, she noticed people walking behind her car.[21] L.M. screamed for help and tried to open the passenger door.[22] The man jumped on L.M. and punched her in the face, causing L.M. to bleed onto her son's stuffed animal in the vehicle.[23] They traveled out of

---

[16] A-95–96, 108, 138.

[17] A-89.

[18] A-90.

[19] *Id.*

[20] *Id.*

[21] *Id.*

[22] *Id.*

[23] A-91.

the apartment complex down Silverside Road toward Marsh Road.[24] After disclosing that she banked with TD Bank, the man drove around until they found a branch location.[25] He did not like the location because it had too much light.[26] They subsequently pulled into a parking lot where the man said he was going to "rape [her] in the ass" and asked her if she had a condom or a bag.[27] L.M. stated that she did not have those things, so the man made L.M. touch her vagina, and he smacked her on her buttocks with one of his gloved hands.[28] He also made L.M. "put a finger in [her] ass."[29]

Subsequently, they drove to a PNC Bank.[30] L.M. leaned over the man and used the drive-thru ATM to withdraw $334.50.[31] They left and eventually stopped in a parking lot so the man could allegedly meet another person who was involved.[32]

---

[24] *Id.*

[25] *Id.*

[26] *Id.*

[27] *Id.*

[28] *Id.* at 91–92.

[29] A-91.

[30] A-92.

[31] *Id.*

[32] A-93.

In the parking lot, the man said he "had lost something."[33] He exited the vehicle and asked L.M. to reach around on the floor to help find it.[34] L.M. asked the man if the item was his gun; he said no and that he had the gun with him.[35] They left the parking lot, and the man said that he had to make a stop and that they were meeting someone "dangerous" and would return to the apartment complex.[36] L.M. told the man that she had to use the bathroom, and they drove back to the complex.[37] The man exited the car and ordered L.M. to keep her head down and not move.[38]

After not hearing any sounds for around 30 seconds, L.M. suspected that the man was lying.[39] She climbed into the driver's seat, started her car, and drove to her boyfriend's apartment.[40] Her boyfriend immediately drove her to the hospital, where she was treated for a broken nose, fractured cheek bone, swelling, bruising, and black

---

[33] *Id.*

[34] *Id.*

[35] *Id.*

[36] A-94.

[37] *Id.*

[38] *Id.*

[39] *Id.*

[40] *Id.*

eyes.[41]

b. S.C.'s Attack

On February 19, 2017, S.C. was preparing dinner at her residence in Arundel Apartments, located in the Pike Creek area, when she realized that she needed an ingredient from the grocery store.[42] When she returned from the store around 6 p.m., she parked her car and walked toward her apartment building.[43] S.C. saw a man enter and exit the building and walk past her.[44] The man swooped around, grabbed her from behind, and shoved her against the building; S.C. felt a gun pressed against her back.[45] S.C. described the man as not thinly built, muscular, and of larger stature, having an age somewhere in his 30's, around 200 pounds, 6'0" tall, with dark brown skin, and wearing dark clothing, a hoodie in the up position, a ski mask, and gloves.[46] She said that his voice "sounded somewhat foreign to [her]," possibly Middle Eastern.[47] S.C. screamed, and the man placed his hand over her mouth and

---

[41] A-95.

[42] A-140, 148.

[43] A-148.

[44] A-148 to 49.

[45] A-150 to 51.

[46] A-150, 176–77, 184–88, 231, 268.

[47] A-177, 184.

threatened to kill her.[48] The man forced her to walk back to her apartment and demanded her money.[49] S.C. offered for the man to look through her purse; he was not interested and only wanted to get to her apartment.[50]

In the apartment, the man forced S.C. to remove her pants and underwear.[51] The man demanded S.C.'s money and valuables, but S.C. told him that she did not have anything.[52] The man did not believe her and searched her apartment.[53] Finding nothing valuable, the man ordered S.C. "to take him to the ATM so he could get cash."[54] He made S.C. wear a long coat and a scarf around her head.[55] He became frustrated with S.C. and anally raped her using the end of a broom and then the muzzle of his gun, which S.C. described as black with a textured pattern.[56]

The man then led S.C. from her apartment to her vehicle.[57] He forced S.C. to

---

[48] A-151 to 52.

[49] *Id.*

[50] *Id.*

[51] A-154.

[52] *Id.*

[53] *Id.*

[54] *Id.*

[55] A-155.

[56] A-156, 160, 165.

[57] A-156.

enter her vehicle from the driver's side and to kneel on the passenger seat facing the back seat.[58] S.C. guided the man to a PNC Bank.[59] S.C. leaned over the man to use the drive-thru ATM while he held the gun to her; she withdrew $500 from her account.[60] After unsuccessfully trying to use an ATM at another bank, they drove to Artisans' Bank, where the man forced S.C. to lean out of the driver's side window to use the ATM.[61] S.C. then escaped by leaping from the window and running into a nearby bar where she locked herself in a bathroom.[62] The police were called to the bar, and S.C. eventually went to the hospital.[63] At the hospital, S.C. was examined by a forensic nurse, who noted that S.C. had sustained external and anal bruises.[64]

c. J.B.'s Attack

Around 6 p.m. on March 6, 2017, J.B. took her dog for a walk in The Bluffs Apartments complex, which is located in the Newark area.[65] J.B. lived in an

---

[58] A-156, 181.

[59] A-166.

[60] A-167, 170.

[61] A-167.

[62] A-169.

[63] A-174 to 75.

[64] A-258, 263.

[65] A-361 to 62.

apartment there with her son and her boyfriend at the time.[66] While returning to her apartment building, she noticed a man with a dark hoodie walking on a catwalk that led to her building's entrance; the man turned around as if he had forgotten something.[67] J.B. entered the building, and she walked down a flight of steps and greeted a man she saw standing in the corner.[68] He did not respond and came toward her.[69] When J.B. tried to let him walk by her, the man turned, pointed a gun to her head, and said that he was going to rob her.[70] J.B. described the man as bulky, approximately 5'8" tall, having an age somewhere in his 30's, having a voice with a deep or possibly "black" accent, wearing a dark hoodie, black gloves, and a black mask covering almost his entire face.[71] The man asked her if she had any money on her or if anybody was home; J.B. answered "no".[72] The man ordered J.B. to take

---

[66] A-361.

[67] A-363 to 64.

[68] A-365. J.B. could not confirm that the man she saw while outside was the same person in the corner. *Id.*

[69] *Id.*

[70] A-365, 367.

[71] A-373, 378 to 80.

[72] A-366.

him to her apartment.[73] They reached a security door inside the building, which had been propped open with her boyfriend's shoe; J.B. bent down, took the shoe, and pressed on various doorbells hoping to ring her apartment.[74] They walked through the doorway and down the hallway to her apartment.[75] As J.B. reached for the door handle, her boyfriend opened the door.[76] J.B. whispered that the man was trying to rob her, and she pointed to him.[77] Her boyfriend chased after the man, but he was unable to capture the assailant.[78] Meanwhile, J.B. ran to a neighbor's apartment for help.[79] The neighbor called 911.[80]

J.B.'s boyfriend testified that he was sitting on the couch in the apartment while J.B. walked the dog.[81] He heard the doorbell ring and assumed that J.B. had forgotten her key and needed to be let in to the apartment.[82] He heard the front door

---

[73] *Id.*

[74] A-368, 370.

[75] A-369.

[76] A-371.

[77] *Id.*

[78] A-371 to 72.

[79] A-371.

[80] A-372.

[81] A-391.

[82] *Id.*

open and saw J.B. with a bewildered look on her face.[83] When J.B. said that "this guy is trying to rob me," he ripped open the door and started chasing the man.[84] He lost track of the man outside the apartment building.[85] He described the man as wearing dark clothing and a ski mask, having a husky build, and approximately 5'6" to 5'8" tall.[86]

2. The Investigation

New Castle County Police Department ("NCCPD") officers responded to each of the attacks, which were jointly investigated because of their similarities.[87] Detective Charles Levy was assigned to be the chief investigating officer.[88] Following the February 13 attack, police had L.M. ride along with officers to identify the locations of her attack in order to find possible surveillance footage.[89] Police collected surveillance footage from PNC Bank, and they processed L.M.'s vehicle for fingerprints and possible DNA evidence; both fingerprints found on the vehicle

---

[83] *Id.*

[84] *Id.*

[85] A-397.

[86] A-396 to 98, 403 to 04.

[87] A-321 to 22, 504.

[88] A-104.

[89] A-105.

belonged to L.M.[90] Police broadcast bulletins to law enforcement agencies in Delaware and Pennsylvania and issued press releases seeking information.[91] Police investigated leads from these efforts, but they were unable to solve the case.[92]

In investigating the February 19 attack, police collected footage from the PNC Bank along Limestone Road and from the Artisans' Bank on New Linden Hill Road.[93] Police processed the apartment building's exterior, S.C.'s apartment, and her vehicle for latent prints and/or possible DNA evidence but found no prints.[94] Police also obtained several search warrants for data from cell towers servicing the areas where the attacks on L.M. and S.C. occurred in order to cross-reference any cell numbers that commonly appeared on these records.[95]

Detective Levy also had an outside forensic company clarify images from bank surveillance footage capturing L.M. and S.C.'s attacks.[96] He noticed that the images depicted a black glove with markings on it, which he suspected was a Wells

---

[90] A-105, 110, 115, 132.

[91] A-132 to 33.

[92] A-133 to 35.

[93] A-196, 199.

[94] A-295 to 97.

[95] A-325 to 26.

[96] A-334.

Lamont glove.[97] Moreover, an officer patrolling Concord Road in North Wilmington collected a Wells Lamont right-hand glove, which was swabbed for possible DNA evidence.[98]

In investigating the March 6 attack, NCCPD unsuccessfully tried to track the perpetrator's movements using a K-9 unit, and they found a pair of vice grips in a grassy area near the apartment building.[99] The vice grips and building's exterior glass door were swabbed for possible DNA evidence, and a fingerprint was located on the door, which did not match anyone.[100] Police failed to find any surveillance footage with evidentiary value.[101] Police obtained another several search warrants for cell towers servicing J.B.'s apartment complex and, upon receiving responses, found that almost 5,000 phone numbers had utilized multiple towers.[102] Police issued additional bulletins to law enforcement agencies in Delaware, Pennsylvania, and the Mid-Atlantic region and continued to investigate multiple leads.[103]

---

[97] A-328 to 29.

[98] A-503, 544.

[99] A-414 to 21.

[100] A-468, 470–71, 479.

[101] A-501.

[102] A-507 to 08.

[103] A-509 to 10.

In May 2017, Pennsylvania police informed NCCPD about an incident in Chichester Township, Pennsylvania in which a BB gun and a black ski mask stuffed with cash were found near each other along Meetinghouse Road.[104] The ski mask underwent DNA analysis in Pennsylvania, which determined that the DNA profile developed from the mask matched Hudson's profile.[105] Pennsylvania police also recovered a Wells Lamont left-hand glove from Hudson's vehicle.[106] NCCPD received the items from Pennsylvania police and swabbed the glove and BB gun's barrel for potential DNA evidence.[107]

3. Hudson's Cellular Data

Pennsylvania police provided Detective Levy with Hudson's cell phone number, but NCCPD separately obtained the number from his employment and bank records.[108] Upon noticing Hudson's phone number on the cell tower dump records, police obtained a search warrant for Hudson's cell site locations specific to his phone

[104] A-513–16. The incident was an armed robbery of a Walgreens Pharmacy, but the evidence was sanitized at trial to exclude any reference to the robbery. *See* A-73.

[105] A-835.

[106] A-527.

[107] A-527 to 28, 530.

[108] A-533.

number.[109] NCCPD contacted the Federal Bureau of Investigation ("FBI") and provided it with records to analyze Hudson's cellular activity.[110]

At trial, FBI Special Agent William Shute testified that, on February 13, Hudson's phone number had twice utilized the cell site pointing towards the crime scene between 6:35 p.m. and 8:02 p.m.[111] Agent Shute also examined the cell sites that Hudson had used on February 19 and March 6.[112] His analysis showed that Hudson's phone utilized towers pointing to areas around the crime scenes and his Wilmington residence, but it did not show that Hudson utilized cell sites directed to the crime scenes on those dates.[113]

Moreover, NCCPD also obtained Hudson's internet search history from Google, which demonstrated that, for each attack, he had searched for the apartment complex's address before committing the attack.[114]

---

[109] A-533.

[110] A-926.

[111] A-875.

[112] A-876 to 81.

[113] *See id.*

[114] A-937–38, 950, 960.

4. Division of Forensic Science

NCCPD sent numerous evidence and reference swabs to the Division of Forensic Science ("DFS") for traditional DNA analysis. For brevity, only the most pertinent findings from this analysis are recited here.

At trial, Sarah Lindauer, a senior forensic analyst with DFS, testified that Hudson could be excluded as a contributor of the DNA on the Wells Lamont right-hand glove, but he was a major contributor of the DNA on the left-hand glove.[115] Hudson was also excluded as contributing the DNA on the exterior door of J.B.'s apartment building.[116] However, swabs of certain other evidentiary items, including the BB gun, produced mixed DNA profiles from which DFS could not draw any official conclusions about the identities of the contributors.[117] Yet based on the consistencies Lindauer observed with the profiles developed from the BB gun swabs, she recommended that police seek the assistance of an outside laboratory.[118] DNA Labs International was retained to perform additional analysis.

---

[115] A-607 to 08.

[116] A-619.

[117] A-603 to 07.

[118] A-621 to 22.

5. DNA Labs International

At trial, Alicia Cadenas testified that she worked for DNA Labs International ("DNA Labs") as a senior DNA analyst from 2014 until 2021.[119] She served as the technical leader of DNA Labs, an accredited laboratory.[120] Cadenas "approve[d] validations" or "any new methods that [the lab] want[ed] to incorporate."[121] She has authored ten publications about DNA, and she has testified over 50 times as an expert witness internationally and throughout the United States.[122]

Cadenas testified that if an item had not been processed for DNA evidence, DNA Labs will perform the typical stages of the testing process, including extraction, quantitation, amplification, and DNA typing.[123] Moreover, the lab has software, STRmix, "to interpret more complex DNA profiles," or to conduct probabilistic genotyping analysis.[124]

Probabilistic genotyping applies "biological models and statistical

---

[119] A-672 to 73.

[120] A-673, 679.

[121] A-675.

[122] A-677 to 78.

[123] A-686 to 87.

[124] A-690, 699.

algorithms" to "determine the DNA profiles of the possible contributors to a DNA mixture."[125] STRmix "build[s] up what it thinks the DNA profile for each contributor is and compares that [with] the DNA profile obtained from the evidence."[126] It "goes through millions of iterations of this in terms of making up what these . . . profile contributors may be, comparing it and determining if it's a good fit."[127] Cadenas said that over 75 percent of the laboratories in the United States have picked "STRmix as the software to utilize and are in some process of validating it," while 63 laboratories in the United States are "online" with it.[128] Cadenas has used STRmix in hundreds of cases, and she has testified as an expert witness in about 10 to 15 cases that used the software.[129]

In using STRmix, Cadenas inputs propositions based on "the individuals that were provided for comparison and the context of the case."[130] STRmix generates a likelihood ratio based on a comparison of the DNA profile of the person of interest

---

[125] A-698.

[126] A-691.

[127] *Id.*

[128] A-699.

[129] A-704.

[130] A-707.

to the probable profile of the DNA mixture.[131] Cadenas said STRmix performs diagnostics and is able to verify that "the run completed successfully and that there were no issues in terms of determining the possible DNA profiles."[132]

Cadenas testified that she received DNA extract from a BB gun for analysis.[133] Without STRmix, Cadenas would have agreed with DFS's conclusion that a "mixed DNA profile consistent with two individuals" was generated and that "no conclusions could be made regarding the inclusion or exclusion of the known profile."[134]

Based on probabilistic genotyping, Cadenas determined that L.M., S.C., and J.B. could not be ruled out as possibly contributing to the DNA found on the gun.[135] She inputted five propositions into STRmix, which generated five likelihood ratios.[136] But only one of these ratios had "extremely strong support" under ranges established by the software's developers: It was "320 trillion times more probable if

[131] A-711.

[132] A-722.

[133] A-693.

[134] A-697.

[135] A-708.

[136] A-710 to 18.

the sample originated from [S.C.] and two unknown persons, than if it originated from three unknown persons."[137] The remaining propositions were deemed "uninformative."[138]

[137] A-709 to 10.

[138] A-713 to 18.

I. THE SUPERIOR COURT DID NOT ABUSE ITS DISCRETION BY DECLINING TO CONDUCT A HEARING ON THE ADMISSIBILITY OF EXPERT TESTIMONY ABOUT DNA TEST RESULTS THAT RELIED ON PROBABILISTIC GENOTYPING.

Question Presented

Whether the Superior Court abused its discretion by declining to conduct a hearing on the admissibility of expert testimony about DNA test results relying on probabilistic genotyping.

Standard and Scope of Review

This Court normally reviews a trial court's evidentiary rulings for an abuse of discretion.[139]

Merits of the Argument

On appeal, Hudson contends that the Superior Court abused its discretion by not conducting a hearing under *Daubert v. Merrell Dow Pharmaceuticals, Inc*.[140] on the admissibility of expert testimony from DNA Labs International ("DNA Labs") about DNA test results that relied on probabilistic genotyping.[141] Based on the

[139] *Fuller v. State*, 860 A.2d 324, 329 (Del. 2004).

[140] 509 U.S. 579 (1993).

[141] Corr. Opening Br. at 15.

defense's cross-examination of Cadenas, Hudson identifies various issues that the trial judge would have allegedly discovered in this case had a hearing been held.[142]

The issue of a *Daubert* hearing was raised regarding Hudson's pretrial motion *in limine* to exclude the test results. In denying his motion, the Superior Court concluded that Cadenas's expert opinions were admissible under *Daubert* and D.R.E. 702.[143] The court then determined that a hearing was neither mandatory nor needed in this case.[144] The Superior Court did not err for the reasons below.

A. The Motion *in Limine*

As part of his motion, Hudson submitted a draft report from the National Institute of Standard and Technology ("NIST") and claimed that the conclusions reached by DNA Labs using STRmix software were unreliable under D.R.E. 702.[145] Hudson contended that these conclusions were based on "pseudoscience" and that its probability results "are not based on concrete or scientifically accepted practices."[146]

---

[142] *Id.* at 17-20.

[143] *Hudson*, 2021 WL 4851971, at *1, 4.

[144] *Id.* at *5.

[145] *Id.* at *3.

[146] *Id.*

The State responded with a substantive memorandum applying *Daubert* and D.R.E. 702.[147] The memorandum also included, among other materials: (1) a DNA Labs certificate of analysis signed by Cadenas; (2) an affidavit executed by two of the lab's employees—Rachel H. Oefelein, who directed research and innovation, managed the lab's quality assurance, and was a senior DNA analyst, and Cristina L. Rentas, who was a technical leader, training manager, and senior DNA analyst; and (3) several responses from professional organizations to NIST's draft report.[148] The affidavit responded to Hudson's allegations and stated:

- The lab's software, STRmix, is designed to resolve "previously unresolvable mixed DNA profiles."[149]
- STRmix is being used for casework in New Zealand and Australia, as well as "sixty-eight U.S. agencies including the FBI, the Bureau of Alcohol, Tobacco, Firearms, and Explosives;" "has been used to interpret DNA evidence in more than 100,000 cases around the world;"

[147] B141.

[148] *Id.*

[149] B162.

and "is in various stages of installation, validation, and training in another sixty U.S. labs."[150]

- STRmix uses likelihood ratios, and the "[u]se of likelihood ratios for statistics is not new or novel and has been used for years in the forensic science community. Articles relating to the use of likelihood ratios in interpreting forensic evidence can be found dating back to the 1980s." Moreover, there are hundreds of articles about likelihood ratios in professional peer-reviewed journals regarding forensic science.[151]
- "Foundational validity has been established for STRmix probabilistic genotyping software through the developmental validation and subsequent internal validations conducted by multiple laboratories."[152]
- STRmix "has been accepted in at least a dozen states nationally (Florida, New York, Michigan, California, Idaho, Texas, Georgia, Wyoming, South Carolina, New Mexico, Arizona and Wisconsin) and

[150] *Id.*

[151] *Id.*

[152] B163.

in at least five countries internationally (Turks and Caicos Islands, Australia, New Zealand, the Bahamas and the UK)."[153]

- Hudson's assertions were incorrect about mathematical computations differing widely among laboratories and about unknown mathematical computations. Instead, "[t]he mathematical computations have been widely published" and "the computations do not vary widely from laboratory to laboratory and have been compared via interlaboratory comparisons through proficiency testing, published studies and [the lab's] internal validation study."[154]
- The NIST's report is only a draft, which "has not been finalized and was open for public comment through August of [2021]," and the forensic community has provided responses to the draft report.[155]

The Superior Court subsequently denied Hudson's motion without a *Daubert* hearing in a carefully crafted order.[156] The court noted that *Daubert* required it to "act as a 'gatekeeper' and determine whether the proffered expert testimony is not

---

[153] B164.

[154] *Id.*

[155] B165.

[156] *Hudson*, 2021 WL 4851971, at *1, 4.

only relevant but reliable."[157] For reliability, the court had to determine whether the technique had been "subjected to peer review and publication;" "had a high known or potential rate of error and whether there are standards controlling its operation," and "enjoye[d] general acceptance within a relevant scientific community."[158]

The court also noted that it had to subject this evidence to a five-part test under D.R.E. 702 and decide whether: (1) "[t]he witness is qualified;" (2) "[t]he evidence is otherwise admissible, relevant, and reliable;" (3) "[t]he bases for the opinion are those reasonably relied upon by experts in the field;" (4) "[t]he specialized knowledge being offered will assist the trier of fact;" and (5) "[t]he evidence does not create unfair prejudice, confuse the issues, or mislead the jury."[159]

In deciding that STRmix is reliable, the Superior Court adopted the Sixth Circuit's ruling in *United States v. Gissantaner* because "the same software and caselaw factors applied."[160] The Superior Court then focused on the first and third factors of the five-part test, although concluding that Cadenas's opinions satisfied

---

[157] *Id.* at *2.

[158] *Id.*

[159] *Id.* at *2-3 (citing *Bowen v. E.I. DuPont de Nemours & Co., Inc.*, 906 A.2d 787, 795 (Del. 2006); *Tolson v. State*, 900 A.2d 639, 645 (Del. 2006)).

[160] *Id.* at *4 (citing *United States v. Gissantaner*, 990 F.3d 457, 467 (6th Cir. 2021)).

"second (relevance), fourth (assistance to the fact finder), and fifth (avoidance of unfair prejudice)."[161] The court found that Cadenas's expert opinions were "relevant to understanding the DNA analysis from a swab taken from a gun, which was alleged to have belonged to Mr. Hudson."[162] Noting that Hudson "has not suggested" that Cadenas's testimony would "create any unfair prejudice," the court concluded that her testimony would "assist the factfinder in understanding the results of the [lab] report and the method in which the sample was taken and analyzed."[163] The court determined that Cadenas was qualified to give her opinions based on her education, training and experience, including because she has worked in DNA analysis since 2008; is a technical leader, lab supervisor, and senior DNA analyst for the lab; and personally performed the DNA testing in Hudson's case.[164] The court found that her opinions "are reliable as they are based on reliable methodology relied upon by experts in the DNA analysis field."[165] The court noted that Hudson had not "refuted

---

[161] *Id.*

[162] *Id.*

[163] *Id.*

[164] *Id.* at *5.

[165] *Id.*

or responded to anything in the DNA Labs Affidavit," and the court credited the affidavit's challenges to his claims of unreliability.[166]

Moreover, the court noted that, while a "pretrial procedure of some sort is . . . required," a *Daubert* hearing is not mandatory.[167] The court "should be supplied with the expert's report and the expert's deposition testimony, as well as any supporting affidavit."[168] Based on this information, the court then determined if a hearing should be conducted and on what issues.[169] The court noted that, even if a hearing is necessary, it should try to narrow the issues beforehand.[170] The court concluded that the parties had "provided [it] with sufficient evidentiary basis to perform its 'gatekeeping' function" and that there were no special circumstances requiring a hearing.[171] It noted that Hudson could raise his contentions through cross-examination of the State's expert witness or through his own expert witness.[172]

---

[166] *Id.* at *4.

[167] *Id.* at *5.

[168] *Id.*

[169] *Id.*

[170] *Id.*

[171] *Id.*

[172] *Id.* at *6.

B. Cadenas

At trial, the defense did not call its own expert witness but elicited various admissions from Cadenas on cross-examination, which Hudson now cites in his opening brief.[173] Cadenas admitted that, because the DNA profile is not known, there was no way to determine if DNA that is not part of the sample had dropped in.[174] She also admitted that the likelihood ratios will be different during "every run," but that, in validating STRmix, her lab found that "the difference is not that significant."[175] She also admitted that similar software programs may arrive at a different probability than STRmix.[176] She also noted that one published paper had provided a mixture to various laboratories to run through their systems, and that any differences were minimal when the labs considered similar propositions.[177] When questioned about the ability to compare the random match probability to a likelihood ratio, Cadenas explained that she would not be able to compare them because they are two different statistics; in other words, she "would not be able to relate [the

[173] Corr. Opening Br. at 17-20.

[174] A-732 to 33.

[175] A-740 to 41.

[176] A-743 to 44.

[177] A-776.

likelihood ratio] to the world's population" as "that number is offering support for one scenario over the other."[178] The defense also confronted her with NIST's draft report, but she did not believe NIST concluded "there was any issue with probabilistic genotyping."[179] Rather, NIST recommended "additional evaluation," because as "an independent group, . . . they are not able to evaluate all of [the] internal validations conducted by all the laboratories" since this is not public information.[180] Cadenas acknowledged that the DNA available for testing in Hudson's case was below an optimal amount, but it was above the minimum and midrange.[181] She was also aware that certain jurisdictions had not allowed testimony about probabilistic genotyping where "the sample itself was not within the confines of validation of the software for that laboratory."[182] On redirect examination, she clarified that the issue for the decisions she had actually reviewed involved "how it

[178] A-747, 787.

[179] A-760.

[180] A-761.

[181] A-766.

[182] A-782.

was applied and whether the validation covered the scope of how it was applied versus the actual science behind it."[183]

C. *Daubert* Hearings

As the Superior Court noted, there was no requirement to have conducted a hearing in determining the admissibility of this evidence.[184] In *Kumho Tire Co., Ltd. v. Carmichael*, the Supreme Court held that "the trial judge must have considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable."[185] Because of this leeway, *Daubert* does not require the judge to hold a hearing.[186] Rather, this decision lies within the judge's sound discretion.[187] Federal courts have held that the record must only be "sufficiently developed in order to allow a determination of whether the [trial] court

---

[183] A-814, 817.

[184] *Hudson*, 2021 WL 4851971, at *5.

[185] 526 U.S. 137, 152 (1999).

[186] *Padillas v. Stork-Gamco, Inc.*, 186 F.3d 412, 418 (3d Cir. 1999) ("An in limine hearing will obviously not be required whenever a *Daubert* objection is raised to a proffer of expert evidence."); *Minner v. American Mort. & Guar. Co.*, 791 A.2d 826, 844 (Del. Super. Ct. 2000) (noting *Kumho Tire*'s ruling that "a Court does not need to hold a full evidentiary hearing each time a party offers expert witness testimony.").

[187] *Padillas*, 186 F.3d at 418.

properly applied the relevant law."[188] The Superior Court has declined to hold *Daubert* hearings in the absence of a special reason or circumstance and where the parties have provided the court with a sufficient evidentiary basis to rule on the evidence's admissibility.[189] In performing its gatekeeping function, the court must only find that the testimony is supported by "appropriate validation" or "good grounds."[190] The standard for reliability "is not that high" and is not equivalent to correctness.[191] And the Advisory Committee's Note to F.R.E. 702 observes that "[a] review of caselaw after *Daubert* shows that the rejection of expert testimony is the exception rather than the rule."[192] At least one federal court has declined a defendant's request to hold a *Daubert* hearing on the admissibility of probabilistic

[188] *United States v. Call*, 129 F.3d 1402, 1405 (10th Cir. 1997); *see Gilmore v. Ford Motor Co.*, 2013 WL 300752, at *6 (W.D. Pa. Jan. 25, 2013); *United States v. Hodge*, 933 F.3d 468 (5th 2019).

[189] *Minner*, 791 A.2d at 846.

[190] *Oddi v. Ford Motor Co.*, 234 F.3d 136, 144 (3d Cir. 2000) (quoting *Daubert*, 590 U.S. at 590).

[191] *Id.* at 155 (cleaned up).

[192] F.R.E. 702 advisory committee's note.

genotyping using STRmix, noting its use by state, federal, and international laboratories.[193]

D. No Abuse of Discretion

Here, the Superior Court did not abuse its discretion by not conducting a *Daubert* hearing. In deciding Hudson's motion, the court considered the parties' extensive arguments, Cadenas's credentials, NIST's draft report, responses to the report from various professional organizations, Cadenas's expert report, and a lengthy affidavit from DNA Labs demonstrating STRmix's reliability and responding to Hudson's arguments.[194] Hudson has not established any special circumstances that required a hearing. The bar for admissibility of this evidence was not high, and the record was sufficiently developed for the court to conclude that the expert testimony was supported by appropriate validation and good grounds.

The Superior Court also had the benefit of the Sixth Circuit's ruling in *Gissantaner*. This decision meticulously examined the reliability of STRmix and found that there was "long proof that STRmix is testable and refutable" and that almost all of the evidence from the hearings in that case concerned how often the

---

[193] *See United States v. Tucker*, 2020 WL 93951, at *3 (E.D.N.Y. Jan. 8, 2020).

[194] *See Hudson*, 2021 WL 4851971, at *3.

testing was accurate versus how often it was not.[195] *Gissantaner* determined that STRmix had been subject to "more than 50 published peer-reviewed articles" and that, "based on an analysis of the DNA of 300,000 people who were known not to be in the mixture, . . . STR mix had accurately excluded the non-contributors 99.1% of the time."[196] *Gissantaner* noted that "numerous courts have admitted STRmix over challenges to its general acceptance in the relevant scientific community," and that probabilistic genotyping software has also been used to exonerate defendants.[197] Accordingly, the Superior Court appropriately declined to hold a *Daubert* hearing.

[195] *Gissantaner*, 990 F.3d at 464.

[196] *Id.* at 466.

[197] *Id.* at 466-67 (citing references).

II. THE SUPERIOR COURT DID NOT ERR BY DENYING HUDSON'S SUPPRESSION MOTION.

Question Presented

Whether the Superior Court erred by denying Hudson's suppression motion and finding that the search warrants for the cell towers were not unconstitutionally broad and were supported by probable cause.

Standard and Scope of Review

This Court reviews *de novo* alleged constitutional violations and legal conclusions concerning a suppression motion.[198] Factual findings are reviewed "to determine whether there was sufficient evidence to support the findings and whether those findings were clearly erroneous."[199]

Merits of the Argument

Hudson argues that the Superior Court erred by not suppressing evidence obtained from search warrants authorizing cell tower dumps in his case.[200] He contends that the warrants violated his rights under the Fourth Amendment to the

---

[198] *Taylor v. State*, 260 A.3d 602, 612 (Del. 2021).

[199] *Id.* (cleaned up).

[200] Corr. Opening Br. at 21. Hudson's arguments raised below about other search warrants are waived as not fairly presented in his opening brief. Supr. Ct. R. 14(b)(vi)(A)(3).

United States Constitution and Article I, § 6 of the Delaware Constitution for two primary reasons: (1) the warrants lacked probable cause by "fail[ing] to set forth sufficient facts to support the proposition that the property was in a particular place;" and (2) the warrants were "not as 'limited as possible'" in their scope and thus amounted to impermissible general warrants.[201] Hudson relies on *Carpenter v. United States* and argues that "citizens have a legitimate expectation of privacy in the records of their physical movements as captured through cell phone identification via nearby cell towers" and that "law enforcement must generally obtain a search warrant supported by probable cause before acquiring [Cell Site Location Information ("CSLI")] from a wireless carrier."[202]

In denying Hudson's suppression motion with similar claims, the Superior Court rejected Hudson's interpretation of *Carpenter*, finding that it did not apply to "tower dump situations."[203] The Superior Court found that the warrants were supported by probable cause.[204] The court concluded that the warrants asked merely for "phone numbers which pinged the cell towers within specific location

---

[201] *Id.* at 24.

[202] *Id.* at 21-22 (citing *Carpenter v. United States*, 138 S. Ct. 2206 (2018)).

[203] *Hudson*, 2021 WL 5505109, at *7.

[204] *Id.*

coordinates" and that "[n]o other data is being collect[ed] beyond the cell phone numbers in the specific locations over a short-specific time period related to the investigations of abductions."[205] Accordingly, the court rejected Hudson's contention that the cell tower warrants were impermissible general warrants.[206] The Superior Court did not err, and any error was harmless nonetheless.

A. The Cell Tower Warrants

As part of its investigation, NCCPD obtained 10 search warrants for cell towers that were directed to five cellular phone carriers.[207] The Superior Court approved the first batch of five warrants on February 20, 2017, after the attacks on L.M. and S.C.[208] The probable cause affidavits for these warrants:

- Described L.M.'s attack at her apartment complex, including providing the date and the approximate time of the attack and the complex's address and GPS coordinates.[209]

---

[205] *Id.* at *8.

[206] *See id.*

[207] *Id.* at *1-2.

[208] *Id.* at *1.

[209] B4–5, 7, 11–12, 14, 18–19, 21, 26–27, 29, 33–34, 36.

- Recited that the assailant forced L.M. into her vehicle, sexually assaulted her, and then made her drive to TD Bank and PNC Bank along Marsh Road to withdraw money from ATMs, providing the banks' addresses and GPS coordinates.[210]
- Provided L.M.'s physical description of the attacker, including that he was dressed in black, used a gun, and wore black gloves and a black ski mask.[211]
- Stated that police obtained surveillance video from PNC Bank showing L.M. and her attacker at the location on February 13, 2017, at 20:52 hours.[212]
- Recited that police were dispatched to the Pour House bar on New Linden Hill Road around 20:40 hours on February 19, 2017, regarding S.C.'s kidnapping and sexual assault.[213]

[210] *Id.*

[211] *Id.*

[212] B5, 12, 19, 27, 34.

[213] *Id.*

- Described S.C.'s attack, which began at her apartment complex, including providing the complex's exact address and GPS coordinates.[214]
- Recited S.C.'s description of the attacker, including that he used a gun and wore dark clothing, black gloves, and a black mask.[215]
- Detailed how the perpetrator attacked S.C. at the complex, forced her back to her apartment, sexually assaulted her, and forced her to drive him to PNC Bank, Wells Fargo Bank, and M&T Bank along Limestone Road, to get money.[216]
- Recited that the assailant also forced S.C. to drive to an ATM at Artisans' Bank, where she escaped, and provided the bank's exact address and GPS coordinates.[217]
- Noted that police obtained video surveillance from Artisans' Bank showing the incident occurring at around 20:38 hours.[218]

[214] B5, 7, 12, 14, 19, 21, 27, 29, 34, 36.

[215] B5, 12, 19, 27, 34.

[216] B5–6, 12–13, 19–20, 27–28, 34–35.

[217] B6–7, 13–14, 20–21, 28–29, 35–36.

[218] B6, 13, 20, 28, 35.

- Represented that cell phones are "commonly used to communicate details of a person's activity prior to and after an incident and cell phones often contain valuable information that can be used to solve crimes."[219]
- Stated that "the information being sought from the cell site identified in this affidavit would only inform investigators as to potential witnesses or suspects in the area who were on their cellular telephone at the time of this incident and in the immediate area of this incident."[220]
- Recited that "cellular telephone service providers . . . maintain a complex network of cell sites positioned geographically across a region in such a way as to provide a blanket of radio coverage for their customers" and that "those cell sites are responsible for direct communications with customers' cellular telephones."[221]
- Represented that "cellular telephone service providers maintain call detail records for incoming and outgoing cellular telephone calls and

[219] *Id.*

[220] B6–7, 13–14, 20–21, 28–29, 35–36.

[221] B7, 14, 21, 29, 36.

messaging services (SMS and MMS) and include—but are not limited to—specific locations for the cell site associated with those incoming and outgoing cellular telephone calls and messaging services."[222]

- Sought data from cell towers servicing:
    - Arundel Apartments on February 19, 2017, from 19:30 to 21:00 hours (1.5 hours);
    - Top of the Hill Apartments on February 13, 2017, from 19:30 to 21:30 hours (2.0 hours);
    - PNC Bank on February 13, 2017, from 20:30 to 21:30 hours (1.0 hours); and
    - Artisans' Bank on February 19, 2017, from 20:00 to 21:00 hours (1.0 hours).[223]

The Superior Court approved the second batch of search warrants on March 7, 2017.[224] These five warrants contained similar representations as those in the first

[222] *Id.*

[223] *Id.*

[224] *Hudson*, 2021 WL 5505109, at *2.

batch, except these warrants sought cell tower data from a different area. The warrants:

- Recited that police were dispatched to the address of The Bluffs Apartments on March 6, 2017, at approximately 18:40 hours, based an attempted robbery of J.B. and provided the complex's address and GPS coordinates.[225]
- Provided J.B.'s description of the attacker as wearing all black with a black ski mask and possessing a gun.[226]
- Stated that the assailant told J.B. that he wanted money and was going to rob her, and he escorted J.B. back to her apartment.[227]
- Sought data from cell towers servicing the complex on March 6, 2017, from 17:30 to 19:00 hours (1.5 hours).[228]

At trial, Detective Levy testified about the limited information police received from the tower dumps. Although he acknowledged that police had received thousands of points of data, he noted that police had not acquired the substance of

[225] B43–44, 50–51, 57–58, 64–65, 71–72.

[226] B43, 50, 57, 64, 71.

[227] *Id.*

[228] B44, 51, 58, 65, 72.

any calls or texts, or even information about who had a particular phone number.[229] He said that "[a]ll we have is phone number and provider and maybe a number that they called or were being called by."[230] FBI Special Agent Shute indicated that, in this instance, a cell phone could utilize a cell tower up to three or four miles away from the phone's location.[231]

B. The Fourth Amendment and Delaware Law

The Fourth Amendment to the United States Constitution provides that "[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures shall not be violated."[232] Article I, § 6 of the Delaware Constitution similarly protects people "in their persons, houses, papers and possessions, from unreasonable searches and seizures."[233] In some respects, Article I, § 6 affords "different and broader protections than the Fourth Amendment."[234]

---

[229] A-346, 508.

[230] *Id.*

[231] A-879 to 80.

[232] U.S. Const. amend. IV.

[233] Del. Const. art. I, § 6.

[234] *Juliano v. State*, 254 A.3d 369, 380 (Del. 2020).

A search warrant must show, within its four corners, probable cause that a crime has been committed and demonstrate a "nexus between the crime and the place to be searched" by providing "facts adequate for a judicial officer to form a reasonable belief that . . . the property to be seized will be found in a particular place."[235] In making these determinations, "the magistrate may draw reasonable inferences from the affidavit's factual allegations."[236] A magistrate's determination of probable cause is entitled to great deference.[237] This Court "consider[s] [the affidavit] as a whole in a practical, commonsense manner, and not on the basis of a hypertechnical analysis of its separate allegations."[238]

Delaware's requirements for search warrants are codified under 11 *Del. C.* §§ 2306 and 2307. Section 2306 requires that an application for a search warrant: (1) "be in writing;" (2) be "verified by oath or affirmation;" (3) "designate the house, place, conveyance or person to be searched and the owner or occupant thereof;" (3) "describe the things or persons sought as particularly as may be;" (4) "substantially allege the cause for which the search is made or the offense committed by or in

---

[235] *Buckham v. State*, 185 A.3d 1, 16 (Del. 2018).

[236] *Rivera v. State*, 7 A.3d 961, 966 (Del. 2010).

[237] *Sisson v. State*, 903 A.2d 288, 296 (Del. 2006).

[238] *Id.*

relation to the persons or things searched for;" and (5) state a suspicion that "such persons or things are concealed in the house, place, conveyance or person designated," with a recitation of the "facts upon which suspicion is founded."[239] Similarly, § 2307 requires a search warrant to "designate the house, place, conveyance or person to be searched" and to "describe the things or persons sought as particularly as possible."[240] Accordingly, "[t]he constitutional requirement that there be a nexus between the crime and the place to be searched is . . . enshrined in Delaware law."[241] And the foregoing reflects two primary requirements for search warrants: (1) they must be based on probable cause; and (2) they must "be as particular as possible."[242]

Recent decisions from the United States Supreme Court provide guidance on this issue as it relates to cellular data. In *Riley v. California*, the Supreme Court held that police may not conduct warrantless searches of digital information on cell phones based on the search incident to arrest doctrine.[243] *Riley* distinguished cell

---

[239] 11 *Del. C.* § 2306.

[240] 11 *Del. C.* § 2307.

[241] *Buckham*, 185 A.3d at 16.

[242] *Taylor*, 260 A.3d at 613.

[243] 573 U.S. 373, 385-86 (2014).

phones from other types of items that may be on an arrestee's person based on the quantity and types of information that is stored on these devices.[244]

In *Carpenter*, the Supreme Court found that the government's acquisition of a defendant's historical CSLI through court orders under the federal Stored Communications Act, which resulted in the production of two batches of records covering seven days and 127 days of the defendant's movements, constituted a search under the Fourth Amendment and required a search warrant.[245] But *Carpenter* noted that it is a "narrow" decision and thus did "not express a view on . . . real-time CSLI or 'tower dumps' (a download of information on all the devices that connected to a particular cell site during a particular interval.)." *Carpenter*'s ruling was "not about 'using a phone' or a person's movement at a particular time," but it concerned "a detailed chronicle of a person's physical presence compiled every day, every moment, over several years."[246]

Although this Court has not squarely addressed the issue of CSLI acquired from a cell tower dump, it has issued several recent decisions about searches

---

[244] *Id.* at 393.

[245] 138 S. Ct. at 2212, 2220-21. *Carpenter* noted that carriers typically maintain records for five years. *Id.* at 2218.

[246] *Id.* at 1220.

involving electronic data. In *Wheeler*, this Court found that witness tampering search warrants that resulted in the seizure and search of 19 electronic devices were unconstitutionally broad because the warrants did not limit the timeframes of those searches and failed to describe "with as much particularity as the circumstances reasonably allow" the items to be searched, when information about the time periods and items could have been included.[247] Citing *Riley*, this Court noted that "electronic devices require greater protections than other forms of property, given the enormous potential for privacy violations that unconstrained searches of these devices pose."[248]

In *Buckham*, the police obtained a search warrant for the defendant's smartphone data to track his movements for six weeks.[249] But the wording of the warrant extended beyond his movements or this timeframe and covered any stored data, "including but not limited to, incoming/outgoing phone calls, missed calls, contact history, images, photographs and SMS (text) messages."[250] This Court

[247] *Wheeler v. State*, 135 A.3d 282, 284, 305 (Del. 2016).

[248] *Taylor*, 260 A.3d 602 (citing *Riley v. California*, 573 U.S. 373 (2014)) (cleaned up).

[249] *Buckham v. State*, 185 A.3d 1, 5-6 (Del. 2018).

[250] *Id.* at 15, 19.

found the warrant invalid because it did not describe the items to be searched with particularity and was broader than "the probable cause on which it [was] based."[251]

In *Taylor*, this Court "pass[ed] over the probable cause requirement" and considered whether the search warrant for the defendant's smartphone was overbroad.[252] This Court found the warrant overbroad because it authorized "a top-to-bottom search" of the device's contents and used open-ended language of "including but not limited to" for the places to be searched.[253]

C. No Constitutional Violation

As will be discussed, Hudson has not demonstrated that the Superior Court erred by denying his suppression motion. The State was not required to have obtained a search warrant for this data, and, in any event, the search warrants were not overbroad and were supported by probable cause.

1. Search Warrant Not Required

As an initial matter, the United States Supreme Court has not expressly extended the Fourth Amendment's protections to cell tower dumps. To be sure, the

---

[251] *Id.* at 18-19.

[252] *Taylor*, 260 A.3d at 615.

[253] *Id.* at 615-16.

State took a cautious approach by obtaining search warrants for these dumps, and courts are admittedly divided on the issue.[254] In analyzing the warrants, the Superior Court appeared to have assumed that the Fourth Amendment and Article I, § 6 applied.[255] But the Superior Court also separately noted the flaw with Hudson's reliance on *Carpenter*—his failure to "consider the difference between a cell tower data and a single person's location over an extended period."[256]

Courts have declined to require a search warrant simply because CSLI was obtained from a tower dump. The Seventh Circuit has determined that the Fourth Amendment was not violated based on a phone carrier searching data from cell tower dumps to determine which phones had connected to towers where its stores had been robbed.[257] The court concluded that the appellant had consented to the carrier's use of the data and that the carrier was not a government agent.[258] The court further

---

[254] *See Matter of Search of Information Associated with Cellular Telephone Towers Providing Serv. to [Redacted] Stored at Premises Controlled by Verizon Wireless*, 616 F. Supp. 3d 1, 8 (D.D.C. 2022) (discussing jurisdictional split in which some jurisdictions require search warrants for tower dumps).

[255] *See Hudson*, 2021 WL 5505109, at *7.

[256] *Id.*

[257] *United States v. Adkinson*, 916 F.3d 605, 608, 610 (7th Cir. 2019).

[258] *Id.* at 610.

noted that the appellant's reliance on *Carpenter* was unhelpful as it "did not invalidate warrantless tower dumps . . . because the Supreme Court declined to rule that these dumps were searches requiring warrants."[259] One federal court has upheld orders under a federal communications statute capturing CSLI from a tower dump for "a particular place at a limited time" and concluded that the matter did not implicate "the privacy concerns underpinning the court's holding in *Carpenter*."[260] Another federal court, in denying a motion to suppress the CSLI obtained from a dozen tower dumps, determined that, because of the "sufficiently limited investigation and intrusion," the government did not need a search warrant under the circumstances of that case.[261] The court found that "*Carpenter* centrally relied on the strong Fourth Amendment privacy interests implicated when law enforcement monitors or obtains voluminous, detailed cell phone information of a person's physical presence compiled over a lengthy period that effectively delineates the life and contours of a person's physical presence."[262]

---

[259] *Id.* at 611.

[260] *See United States v. Walker*, 2020 WL 4065980, at *8 (E.D. N.C. July 20, 2020).

[261] *United States v. Rhodes*, 2021 WL 1541050, at *1-2 (N.D. Ga. Apr. 20, 2021).

[262] *Id.* at *2.

The Pennsylvania Superior Court has upheld the denial of a motion to suppress based on the government obtaining CSLI from an antenna located near the victim's house through a court order under that state's wiretapping statute.[263] The court distinguished this scenario from instances where police had "target[ed] a specific individual or attempt[ed] to track an individual's movements."[264] The court concluded that the appellant "ha[d] not established a legitimate expectation of privacy concerning the [cell tower] information produced by [the carrier]" and that *Carpenter* had "forswore any application to cell tower dump requests."[265] Thus, "[t]he tower dumps in the present matter were less a tool for 'tracking' suspects and more akin to the 'conventional surveillance technique[]' of 'security cameras,' capturing the identity of all cell phone users who happened to be in the vicinity of a crime scene."[266] The court noted that CSLI did not pinpoint the defendant "to a

[263] *Commonwealth v. Kurtz*, ---A.3d---, 2023 WL 3138750, at *2, *13 (Pa. Super. Ct. Apr. 28, 2023). Both Pennsylvania and Delaware have wiretapping statutes that generally prohibit the intentional disclosure of electronic communications but permit disclosure under a court order. *See 11 Del. C.* § 2401, *et seq.*; 18 Pa.C.S.A. § 5701, *et seq.*

[264] *Kurtz*, 2023 WL 3138750, at *12.

[265] *Id.* at *13 (citing *Carpenter*, 138 S. Ct. at 2219-20).

[266] *Id.* (quoting *Carpenter*, 138 S. Ct. at 2219-20).

specific location or building" but only showed that the phone was within a several mile range of the victim's home.[267]

Here, Hudson has not established that a search warrant was required because *Carpenter* has not been extended to cell tower dumps. Based on the limited tower dump requests in this case, there was not a legitimate privacy interest in the information produced by the carriers. These dumps provided discrete data in small intervals. This data did not pinpoint Hudson or others to a particular location or building, but it provided limited information about those using specific cell towers during short timeframes—towers that generally had a range of several miles.[268] This was not a comprehensive chronicle of Hudson's physical movements that would have allowed the State to have tracked his precise location and followed him without detection, nor was it the top-to-bottom search of his electronic devices without any timeframe limitations that this Court found unconstitutional in *Buckham*, *Taylor*, and

[267] *Id.* at *13; *see Matter of Search*, 616 F. Supp. 3d at 8 (although not deciding whether a search warrant is required for a cell tower dump, noting that these dumps "do not implicate the significant privacy interests in the form of a 'comprehensive record' over a lengthy period of time of a targeted individual's movements that animated the *Carpenter* Court's holding.").

[268] *See* A-895 to 96.

Wheeler. In sum, the cell tower dumps were not searches that implicated the Fourth Amendment or Article I, § 6.

2. Search Warrants Not Overbroad

Even if this Court were to assume or conclude that a search warrant is required for a cell tower dump, the instant warrants were not unconstitutionally overbroad. They were limited in their geographical scope as they only requested data related to the locations of these crimes. They designated the specific places to be searched—cell sites servicing the areas where the crimes occurred—and provided the addresses and GPS coordinate for the locations. They also described the things sought as particularly as they could under the circumstances. They detailed the data that cellular phone carriers maintain for calls and messages, including location information, and noted that this information can assist law enforcement in identifying probable locations of suspects and witnesses. The warrants were also limited in their temporal scope, as they only requested data for periods between one and two hours and around the times that the attacks occurred.

3. Search Warrants Supported by Probable Cause

Moreover, the search warrants were supported by probable cause. They painstakingly described the attacks within their four corners and demonstrated

probable cause that crimes had been committed. They also provided a clear nexus between these criminal activities and the places to be searched. The nature of these activities, their timing, and the locations as described in the warrants "provide[d] a substantial basis to believe both that . . . the requested cell tower dumps w[ould] [have] provide[d] evidence helpful in identifying the Subject, associates present or communicating with the Subject during the relevant time period, and/or potential witnesses."[269] Accordingly, the Superior Court properly concluded that probable cause existed for the warrants.

D. Harmless Error

Even if this Court finds that the search warrants were unconstitutional, any error was harmless. An error is harmless "if the State proves beyond a reasonable doubt that the error complained of did not contribute to the verdict obtained."[270]

To be sure, it appears that FBI Special Agent Shute reviewed data from the cell tower dumps in analyzing Hudson's cell phone activity.[271] And admittedly other search warrants referenced the cell tower dumps, including those for Hudson's DNA

---

[269] *Matter of Search*, 616 F. Supp. 3d at 10.

[270] *Taylor*, 260 A.3d at 618 (cleaned up).

[271] *See* A-875 to 76.

sample, cell site data specific to his phone, and his Google account.[272] But the inevitable discovery and/or independent source doctrines apply.[273] It was inevitable that police would have obtained Hudson's DNA and electronic data. Besides these attacks, police were investigating multiple armed robberies of Delaware and Pennsylvania pharmacies with a similar suspect and *modus operandi*, which these warrants described.[274] Pennsylvania police apprehended Hudson after he robbed a pharmacy, and they recovered his cell phone from his vehicle.[275] Hudson was being developed as the likely culprit by the joint efforts of NCCPD and Pennsylvania police through routine police procedures. Police were also aware of Hudson's cell number because he had previously disclosed it to Delaware probation officers.[276]

---

[272] B85, 96, 106, 116-17, 128, 139.

[273] *See Cook v. State*, 374 A.2d 264, 268 (Del. 1977) (inevitable discovery doctrine applies where "police conduct occurred while an investigation was already in progress and resulted in evidence that would have eventually been obtained through routine police investigatory procedures"); *Norman v. State*, 976 A.2d 843, 895 (Del. 2009) (under independent source doctrine, "even if police engage in illegal investigatory activity, evidence will be admissible if it is discovered through a source independent of the illegality").

[274] B114–16.

[275] B116.

[276] B128.

The Pennsylvania search warrant for his cell phone did not detail these attacks.[277] Thus, the tower search warrants did not taint other evidence in this case.

And there was substantial other evidence of Hudson's guilt. The *modus operandi* of these attacks was similar: a female at an apartment complex was approached during evening hours by a man who claimed to possess a firearm and who wore dark clothing, a face mask, and black gloves. In two of the attacks, the perpetrator forced his victims to drive to ATMs to withdraw money, and he sexually assaulted them in their anal areas (the third attack was thwarted shortly after it began). Hudson was linked to these attacks based on DNA evidence found on the black ski mask, B.B. gun, and Wells Lamont left-hand glove. Hudson's internet search history revealed that, for each attack, he had searched for the apartment complex's address before committing the attack. In sum, the Superior Court properly denied Hudson's suppression motion.

[277] *See* B73–75.

CONCLUSION

The State respectfully requests that this Court affirm the judgment below for the foregoing reasons.

/s/ Brian L. Arban
Brian L. Arban (Bar I.D. No. 4511)
Deputy Attorney General
Delaware Department of Justice
Carvel State Office Building
820 North French Street, 5th Floor
Wilmington, Delaware 19801
(302) 577-8500

Dated: June 15, 2023

IN THE SUPREME COURT OF THE STATE OF DELAWARE

KWESI HUDSON,	)	
	)	
Defendant-Below,	)	
Appellant,	)	
	)	
v.	)	No. 303, 2022
	)	
	)	
STATE OF DELAWARE,	)	
	)	
Plaintiff-Below,	)	
Appellee.	)	

CERTIFICATE OF COMPLIANCE WITH TYPEFACE REQUIREMENT AND TYPE-VOLUME LIMITATION

1. This brief complies with the typeface requirement of Rule 13(a)(i) because it has been prepared in Times New Roman 14-point typeface using Microsoft Word 2016.

2. This brief complies with the type-volume limitation of Rule 14(d)(i) because it contains 9,981 words, which were counted by Microsoft Word 2016.

Dated: June 15, 2023

/s/ *Brian L. Arban*
Brian L. Arban (Bar I.D. No. 4511)
Deputy Attorney General