	SUPREME COURT OF NEW JERSEY **Docket No. 089819**
STATE OF NEW JERSEY, Plaintiff/Petitioner, v. JULE HANNAH, Defendant/Respondent.	Criminal Action On Certification Granted from a Final Judgment of the Superior Court of New Jersey, Appellate Division App. Div. Docket No.: A-3528-21 Sat Below: Hon. Patrick DeAlmeida, J.A.D. Hon. Maritza Berdote Byrne, J.A.D. Hon. Avis Bishop-Thompson, J.A.D.

BRIEF OF AMICUS CURIAE LARRY E. DANIEL, EXECUTIVE DIRECTOR OF THE DIGITAL FORENSICS JUSTICE INITIATIVE

On the Brief:
Howard Pashman (#261752018)
CJ Griffin (#031422009)

Pashman Stein Walder Hayden, P.C.
Court Plaza South
21 Main Street, Suite 200
Hackensack, NJ 07601
Tel: (201) 488-8200
Fax: (201) 488-5556
hpashman@pashmanstein.com

Attorneys for Amicus Curiae
Larry E. Daniel, Executive Director
of the Digital Forensics Justice
Initiative

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PRELIMINARY STATEMENT

Amicus curiae, Larry E. Daniel, is an expert with extensive experience conducting, publishing, teaching, and testifying on historical cell site analysis, cellular technology, telecommunications networks, and digital forensics. Mr. Daniel submits this brief to urge this Court to affirm the Appellate Division and to hold that evidence of historical cell site data must be provided through expert testimony whenever it is offered to prove that cell phones connect to cell towers based on physical proximity.

Expert testimony is necessary because allowing lay testimony on such matters produces inaccurate evidence that misleads the factfinder. That is so because the cell phone records themselves do not establish proximity or distance between the tower and the phone. The records, referred to as call detail records (CDR), say only that a certain phone connected to a particular tower at a given time. Allowing a lay witness to testify to proximity when the CDR says nothing about it misleads the jury into thinking such evidence is more precise than it really is and that the records include information that they do not.

Such lay testimony is also inaccurate because cell phones connect to antennas for many different reasons having nothing to do with proximity. As such, CDR does not establish proximity, and testimony that claims otherwise is misleading. Making that interpretive link between cell tower location and the

proximity of a phone can only be accomplished by someone qualified as an expert. Only someone with specialized knowledge, training, or experience can take the very limited information in the CDR and conduct additional tests and analysis to interpret the CDR alongside other data to explain what the CDR does, and does not, say about any geographic connection between a tower and a phone. That is, only an expert who looks beyond the CDR can provide testimony on the proximity (or lack of it) between a cell tower and phone in a way that does not mislead the factfinder.

It is for just this reason that the Scientific Working Group on Digital Evidence (SWGDE) recently advised against relying solely on cell tower latitude and longitude coordinates from CDR when conducting historical cell site analysis. SWGDE recommends relying on a much broader basis of data, testing, and verification because the tower's coordinates, without more, do not reliably support any conclusions about the distance between the tower and a phone. Therefore, in this case and others, only an expert should be permitted to take CDR as one data point among many and opine on what such data indicates about the tower and phone in question. By requiring such testimony be provided by experts, courts will ensure that factfinders are not misled into thinking that CDR contains information that it does not or that location testimony is more precise than it really is.

STATEMENT OF INTEREST OF AMICUS CURIAE

Larry E. Daniel is the Executive Director of the Digital Forensics Justice Initiative, a non-profit organization dedicated to providing legal education on cellular technology, historical cell phone records analysis, telecommunications networks, and digital forensics. Mr. Daniel wrote a book on the use of historical cell site records as evidence. Larry Daniel, Cell Phone Location Evidence for Legal Professionals (2017). Mr. Daniel also co-authored a book on digital forensics. Larry E. Daniel & Lars E. Daniel, Digital Forensics for Legal Professionals (2011).

After receiving training in CDR analysis and mapping, Mr. Daniel received over 150 additional hours of training in cellular networks and wireless technology from the Teracom Training Institute. He has also obtained certifications in wireless networks and technology. He is a Certified Telecommunications Network Specialist (CTNS); Certified Telecommunications Analyst (CTA); and Certified Wireless Analyst (CWA).

Mr. Daniel has also obtained certifications in cell phone, computer, and global position system (GPS) forensics, including Encase Certified Examiner (EnCE); Digital Forensics Certified Practitioner (DFCP); Blackthorn Certified GPS Examiner (BCE); Cellebrite Certified Operator (CCO); Cellebrite Certified Physical Analyst (CCPA); Cellebrite Certified Premium Operator (CCPO); and

Cellebrite Advanced Smartphone Analysis Examiner (CASA). Mr. Daniel is a past president of the Digital Forensics Certification Board (DFCB).

From 2006 until 2016, he was the President of Guardian Digital Forensics and from 2016 to February 2025 he was the Technical Director of Digital Forensics for Envista Forensics. Throughout that time, Mr. Daniel conducted forensic examinations of cell phones, call detail records, computers, and computer networks. In addition, Mr. Daniel has provided over 175 seminars and continuing legal education presentations, including at the Department of Defense Cyber Crime Conference, on forensic examination of cell phones, computers, network systems, and telecommunication systems.

Mr. Daniel has qualified and testified as a computer forensics expert, a cellular phone forensics expert, a GPS forensics expert, a cellular technology expert, and historical call detail records expert over 85 times in 17 states and 15 federal district courts.

PROCEDURAL HISTORY AND STATEMENT OF FACTS[1]

Amicus adopts the procedural history and statement of facts set forth in the Appellate Division's opinion. Ppa4-17.

[1] Amicus adopts the citation format in the State's supplemental brief before this Court.

LEGAL ARGUMENT

Amicus joins the Defendant's arguments, namely that the trial court erred in allowing lay testimony on historical cell site data and the Appellate Division's vacating the conviction should be affirmed. Amicus' brief analyzes how the cellular telephone system operates; how the science behind that system does not permit the generalization that phones generally connect to the closest antenna; and additional tests required to turn the limited information in CDR into reliable data on a claimed geographic connection between a tower and a phone. These points highlight how a lay witness who testifies based solely on CDR that cell phones generally connect to the closest tower mischaracterizes CDR and the science behind cell networks and, therefore, misleads the factfinder.

I. HOW THE CELLULAR TELEPHONE SYSTEM OPERATES

An examination of the issue under review starts with an understanding of how cell networks operate. That understanding begins to explain why a lay witness should not be permitted to testify based on CDR regarding the location of cell towers and to explain that phones generally connect to towers based on proximity. Such testimony should not be permitted because it is inaccurate: the science behind cell networks does not permit any such generalization about why phones connect to particular towers at a certain time and CDR by itself does not support any conclusions about the geographic relationship between a phone and

a tower. The only way to avoid misleading the jury is to require that all such testimony be provided by experts who can explain CDR and cell phone location evidence in a way that does not mislead the factfinder into thinking historical cell site data is more exact than it really is.

"A cellular telephone operates as a two-way radio that transmits and receives signals throughout a cellular network." Aaron Blank, The Limitations and Admissibility of Using Historical Cellular Site Data to Track the Location of a Cellular Phone, 18 Rich. J.L. & Tech. 3, 5 (2011). As such, every cell phone has at least two types of radios in it: a radio that sends voice transmissions and one that receives voice transmissions. Daniel, Cell Phone Location at 4. Cell phones typically have additional radios to accommodate other uses such as streaming video and streaming audio. Vladan M. Jovanovic and Brian T. Cummings, Analysis of Mobile Phone Geolocation Methods in US Courts, 11 IEEE Access 28037, 28039 (2023), available at https://ieeexplore.ieee.org/document/9729192.

These radios transmit radio waves back and forth to antennas. Daniel, Cell Phone Location at 8. The antennas can be mounted on various structures including towers, buildings, billboards, and elsewhere. Matthew Tart, et al., Historic Cell Site Analysis – Overview of Principals and Survey Methodologies, 8 Dig. Investigation 185, 185-86 (2012). Wherever the antenna is mounted, its

physical location is called the cell site, and a cell site usually contains multiple antennas from different cellular network providers. Id. at 186.[2] Some antennas are designed to transmit radio signals in 360 degrees, called omnidirectional; others have antennas that are oriented in a particular direction and designed to provide coverage only in that direction, called a "sector." SWGDE, Recommendations for Historical Cell Site Analysis 12 (17-F-001-3.0, Mar. 3, 2025), available at https://www.swgde.org/17-f-001/.

Cellular network providers employing a sectorized cell site may have as many as six antennas pointing in different directions from the site. Daniel, Cell Phone Location at 13. Most commonly, however, a sectorized cell site will have three antennas with each designed to cover a 120-degree angular width, thereby seeking to offer coverage across 360 degrees from the site. Id. See also SWGDE, Recommendations at 13-14. Regardless of whether a cell site has omnidirectional or sectorized antennas, its coverage area is designed to overlap with neighboring cell sites to provide continuous service. Tart, 8 Dig. Investigation at 186.

The antennas are connected by cables to additional equipment at the cell site that manages the antennas and their radio transmissions. Daniel, Cell Phone

[2] Cell sites are colloquially called towers, but they are more accurately referred to as cell sites because the antennas are not always mounted on towers.

Location at 10. Depending on the cellular network provider, this equipment includes a switch called a base station controller (BSC) or base transceiver station (BTS). Id. Each BSC or BTS is connected by fiber optic cables or other means to ever-larger groups of cell sites. Every BSC or BTS is connected to a radio network controller that manages the radio traffic, and hence cellular calls, for a group of cell sites. Id. at 19-20. Various radio network controllers are connected to a mobile switching center (MSC) and the mobile switching centers, in turn, are connected to a central office. Id. at 20, 26.[3]

Within this network, BSCs, BTS, and MSCs are particularly important for the present analysis because CDR consists of data collected from these devices. Id. at 34. There is no standard form or data set for CDR employed by all cellular network providers. However, the fact that the information in CDR comes from BSCs, BTS, and MSCs has led to similar content across providers. As stated, these devices are switches in the cellular network, and so the information extracted from them is heavily focused on processing calls, texts, and data. CDR thus "typically includes the date, time, duration, source identifier, destination identifier, or the amount of data transmitted or received." SWGDE,

[3] The radio network controllers, mobile switching centers, and central offices are all connected to the traditional telephone system, which allows cell phones and landlines to call each other.

Recommendations at 4.[4] In addition to stating who called whom, when, and for how long, CDR often contains information regarding which cell site or sector the device connected to at the start and end of each call. Jovanovic, 11 IEEE Access at 28038. To understand such sector information, an examiner must use a legend or key provided by the cellular company. SWGDE, Recommendations at 10.

Cellular providers archive such data for billing and network maintenance purposes, which also affects its content. Jovanovic, 11 IEEE Access at 28038. Daniel, Cell Phone Location at 35-36. CDR allows the network provider to bill customers for calls, texts, and data usage, and to have a record of such usage if a customer disputes a bill. Daniel, Cell Phone Location at 35. CDR also allows engineers to monitor certain aspects of the network's operation such as which antennas or cell sites are processing large volumes of calls. Id. at 35-39. Thus, CDR is archived to allow network providers to create accurate billing records and to allow engineers to monitor network usage and operation.

Equally important is what information CDR does not provide. Regardless of the cellular company, CDR does not provide an exact location of a cellular device. As stated, CDR is collected from switches to archive billing and

[4] Source and destination identifiers are the phone numbers involved in a call or a text exchange.

engineering information, and so the network providers who create CDR do not do so to locate cell phones. See Id. at 60 ("[CDR] do[es] not provide a method for precisely locating a cell phone and no claim should be made by anyone to know the specific location of a phone based solely on [CDR], nor should anyone claim to be able to triangulate the location of a phone based on [CDR].").

CDR does not provide any map or depiction of an antenna's coverage area as it existed at a particular time. It does not describe the many conditions summarized in Point II that might have affected the radio waves, and thus the coverage area, at a certain time. And crucially, it does not explain why a cellular device connected to a particular cell site at a certain time. In consequence, the limited information in CDR does not by itself address the key issue in cases involving historical cell site data: whether the cellular device was, or was not, at a particular place at the time in question. Therefore, a witness who testifies based on CDR to a geographic relationship between a phone and an antenna misleads the factfinder because such information does not appear in CDR.

II. THE SCIENCE BEHIND CELL PHONES DOES NOT PERMIT THE GENERALIZATION THAT PHONES GENERALLY CONNECT TO THE CLOSEST CELL SITE

A lay witness should not be permitted to testify that phones generally connect to cell sites based on physical proximity because that is simply inaccurate. The science behind antennas and their radio waves does not support

a sweeping generalization about why phones connect to a particular cell site at a certain time. A phone connects to a cell site for a variety of reasons other than proximity. In consequence, allowing a lay witness to plot cell site locations on a map and to explain that phones generally connect to cell sites based on physical proximity misleads the factfinder into thinking that the phone must have been close to the site when other factors, alone or in combination, could explain why the phone connected where it did.

Phones connect to whatever antenna is emitting radio waves that the phone detects within a frequency range at a particular moment. As such, explaining why a phone connects to a particular tower requires understanding that radio waves are dynamic—they are always in motion such that they can be slowed (i.e., weakened), blocked entirely, redirected, and bounced around in ways that allow a phone to pick up the waves from an antenna that is not the closest one. The characteristics of the phone also affect the signal that it detects. As a result, a variety of factors can move radio waves in a way that cause a phone to connect to a cell site other than the closest one. Those factors include:

- Natural features and events. Mountains, hills, valleys, trees, vegetation, and even weather affect the path radio waves travel such that a signal may be blocked or redirected before it reaches someone. Blank, 18 Rich. J.L. & Tech. at 7. Daniel, Cell Phone Location at 66.

- Manmade features. Buildings and other manmade objects such as signs can reflect radio waves and cause them to travel along multiple paths. These paths could limit the range of the radio waves, or they could

travel in a way that causes a distant phone to detect that antenna more readily than a closer one. Blank, 18 Rich. J.L. & Tech. at 7. Daniel, Cell Phone Location at 65.

- Building materials. Radio waves weaken and are deflected as they travel through building materials, including some metallized tint on windows, such that a phone on the upper floors of a high rise might detect a signal from a distant tower more easily than a signal from an antenna that is closer but nearer to ground level. Jovanovic, 11 IEEE Access at 28039 n. 3 ("[I]n high-rise buildings, the [radio frequency] propagation on the ground floor can be very different than e.g. on the 20th floor."). Daniel, Cell Phone Location at 65.

- Presence in a car. Just as with buildings, the size of the vehicle, materials used in it, and even the tint on the windows can affect how radio waves behave in reaching cell phones inside the vehicle. Jovanovic, 11 IEEE Access at 28039.

- Strength of antenna. Certain models and types of antenna emit stronger radio waves that can travel farther and penetrate buildings and cars more readily than other types. Blank, 18 Rich. J.L. & Tech. at 7. Jovanovic, 11 IEEE Access at 28039. A phone might detect the waves from that antenna rather than a closer, weaker, one.

- Height of the antenna. An antenna that is mounted high off the ground will likely emit radio waves that can be detected further away than one closer to the ground. Blank, 18 Rich. J.L. & Tech. at 7.

- Malfunctioning, maintenance, and repair. Antennas, cables, or any other equipment at a cell site can malfunction or need to be repaired. Daniel, Cell Phone Location at 65. Antennas and/or cell sites might have to be "turned off," or inactivated for repair and maintenance. Jovanovic, 11 IEEE Access at 28039. Implementing new technology, including software and hardware updates, can in some circumstances cause antennas to malfunction for two years after such implementation. Id. A malfunctioning cell site or one being repaired will not produce a signal for a cell phone to detect even if that site is the closest one to the phone, or such antenna might produce a weaker signal than it did before such maintenance issues arose.

- Installation issues. An antenna can be mounted in a way that its signal does not travel far. For example, one engineer reported investigating a service issue and discovering that an antenna had been mounted on the building in a way that the building itself blocked nearly all of the radio waves traveling to and from it. Id. at 28046 n. 15. Such installation may be an error, or it might be the result of the building owner only permitting antennas on certain sides of a building. Id. Whether by error or design, such issues limit the distance and direction that radio waves travel, thereby potentially causing a phone to detect a more distant antenna rather than the blocked one.

- Load balancing. If the antenna(s) at a particular cell site have reached the limit of radio traffic that the network operator has established, then a call will be set up on another antenna or cell site that has capacity even if that cell site is not the closest one. Jovanovic, 11 IEEE Access at 28043; Daniel, Cell Phone Location at 63.

- Phone itself. The technical capabilities of the phone matter. Some phones are more sensitive and will detect signals that others will not. Blank, 18 Rich. J.L. & Tech. at 7. In one test, four different types of phones placed on the same table at the same time registered different signal strengths. Daniel, Cell Phone Location, 65. The condition of the phone and even the type of case on it can also affect whether the phone detects the signal from the closest cell site or another one. Daniel, Cell Phone Location, 63.

To be sure, proximity is also a factor that, along with these other factors, affects which antenna a phone will connect to. See, e.g., Jovanovic, 11 IEEE Access at 28038 ("Mobile phones typically connect to one sector initially, often but not always the nearest one."). But it is inaccurate and thus misleading to generalize that proximity is always the predominant factor in determining which antenna a phone connects to. Thus, merely plotting the location of cell sites on a map does not justify permitting a lay witness to testify that cell phones

generally connect to the closest cell site. Rather, identifying which factors are relevant in a given context and weighing those factors is more appropriately expert testimony.

> As this Court has held, N.J.R.E. 702 requires:
>
> > (1) the subject matter of the testimony must be beyond the ken of the average juror; (2) the field of inquiry must be at a state of the art such that an expert's testimony could be sufficiently reliable; and (3) the witness must have sufficient expertise to offer the testimony.
> >
> > [State v. J.L.G., 234 N.J. 265, 280 (2018) (quotations and citation omitted).]

The expert must provide an "opinion that will assist the trier of fact." State v. Burney, 255 N.J. 1, 23 (2023) (citation omitted). In addition, reading N.J.R.E. 702 and 703 together "requires that an expert give the why and wherefore that supports the opinion, rather than a mere conclusion." Id. (citation omitted).

Here, identifying and weighing the relevant factors is beyond the ken of an average juror. An average juror could not compare the radio propagation power of two different antennas and analyze how the composition of the building where the phone was located combined with the presence of trees and other buildings affected the radio waves such that the phone failed to detect the most proximate cell site and instead connected to a more distant one. Such testimony helps the trier of fact understand why a phone connected to one cell site instead

of another. And a properly qualified expert could explain her methods and assumptions—the why and wherefore—supporting her opinion.

The testimony from the witness in this case, Detective Kenneth Leyman, proves the danger of allowing lay testimony stating that phones generally connect to the closest cell site. Detective Leyman only testified to the locations of the towers where Defendant's cell phone supposedly connected. See, generally, 5T, 8T. He never testified to the location of other towers in the same area. As a result, the jury never had the opportunity to hear any context for the connections or any explanation as to why the Defendant's phone might have connected to some towers and not others.

Not only did Detective Leyman fail to provide that context or explanation, but he made inaccurate claims regarding proximity between cell sites and locations at issue. For instance, Detective Leyman testified that Defendant's phone connected to a cell site about 3,000 feet away from where the Defendant's car crash supposedly occurred. 8T 155:25-156:9. Even assuming the estimate of 3,000 feet is accurate, Detective Leyman's testimony ignored the fact that the phone might have been the same distance from the cell site but in a different sector in the opposite direction. The same would have been true of an omnidirectional antenna. The phone might have been 3,000 feet away from the antenna but in another direction than the one Detective Leyman testified the

crash happened. That is, the phone might have been 6,000 feet away—more than a mile—from the crash. Indeed, the phone might been closer or further away than that depending on the variables described above at the time in question.

Such testimony illustrates the pitfalls of allowing a lay witness to testify based on CDR that there was a geographic connection between the phone and the antenna. A lay witness can only drop pins on a map where the phone supposedly connected and say, inaccurately, that phones generally connect to the closest cell site. Such testimony misleads the factfinder into thinking that there is no other explanation besides proximity for why the phone connected to those sites. Therefore, only an expert should testify regarding the geographic connection between a phone and a cell site to ensure that the factfinder is not misled into thinking that the phone must have connected to the site merely because they were near each other.

III. EXPERT EVIDENCE AVOIDS MISLEADING THE FACTFINDER WITH LAY TESTIMONY BASED SOLELY ON CDR

Lay testimony on phone location based solely on CDR produces inaccurate testimony that misleads the factfinder. However, someone who is qualified as an expert can conduct tests that go beyond the limited data in a CDR and testify about what that analysis does, and does not, say regarding the location of a phone at a particular time in the past.

There are a variety of tests available to those with sufficient knowledge, training, and experience to conduct them. Which tests might be appropriate depends on the circumstances of each case. If it is necessary to examine whether a cellular phone may have been in a large area such as a state or a region, then the examiner might be able to model the coverage area based on information received from the network provider and/or observing the cell site. Tart, 8 Dig. Investigation at 188. For instance, an analyst may be able to examine subpoenaed records and inspect the cell site to opine that since the antenna in question was a particular make and model, mounted in a certain location, at a certain height, and oriented in a certain direction, it could not even under ideal conditions emit radio waves that traveled more than ten miles, and so any device that connected to it must have been within a ten-mile radius.

If shorter distances are at issue, then other tests may help assess the likelihood of whether a cell phone connected to a certain antenna because it was the closest one. An examiner may take a spot sample of radio waves in a single or small number of places on one occasion or on some set schedule. Id. The examiner may take a broader survey of radio waves, typically by collecting more samples over a longer period of time than a spot sample. Id. at 188-89. The examiner can also conduct walking surveys whereby (s)he continuously records location, radio frequency, antenna, and other data over the area traveled. Id. at

189. See also Jovanovic, 11 IEEE Access at 28042-43. The analyst might also conduct drive tests, which can collect a wide range of data depending on the purpose(s) of the tests and the equipment used. Daniel, Cell Phone Location at 71-78.

Only an expert can decide which methods might be helpful in which contexts, conduct the tests, interpret the results, and recognize the limitations of each test. And only an expert can explain his or her methods and reasoning to allow the factfinder to assess the benefits and flaws in the testimony. Moreover, only an expert can take the limited information in a CDR—namely, the fact that a cell phone connected to a particular antenna at a certain time—and conduct additional tests and analysis that avoid the inaccuracies that arise when a lay witness testifies based on CDR. As the Defendant correctly noted in his brief before the Appellate Division, drawing inferences from, and explaining the implications of, one's observations falls squarely within the ambit of expert testimony. See Db32. Here, requiring expert testimony would assist the trier of fact by providing additional data beyond the limited and potentially misleading testimony based only on CDR.

Requiring expert testimony would also comport with how scholars have recommended addressing CDR in court. Scholars recognize that relying solely on CDR produces an inaccurate picture of a geographic connection (or lack of

one) between a phone and a cell site. As one group of scholars has stated, reviewing CDR is only the first step and, once that is complete, "the next stage of cell site analysis" is conducting tests and surveys such as those summarized above. Tart, 8 Dig. Investigation at 187. Likewise, SWGDE recognizes that the location of cell sites in CDR is insufficient by itself to provide reliable information about where a phone might have been in relation to those sites: "Despite specific latitude and longitude references to the antennas used by a target device in a CDR, it is necessary to have the neighboring cell site locations and information. This aids to conduct Cell Site Analysis more thoroughly." SWGDE, Recommendations, 9. As such, SWGDE recommends acquiring additional data and conducting mapping and verification processes as well. Id. at 9-12, 15-18.

Here, Detective Leyman did exactly what scholars and scientists advise against. He used only CDR to testify to the locations of cell sites based on latitude and longitude and to explain that those connections occurred based on proximity. See, e.g., 8T 27:20-28:3; 149:4-150:10; 154:2-3; 156:23-157:14; 158:6-7; 160:21-22; 162:5-6; 163:12-13; 165:7-166:20; 168:18-19; 170:20-168:5; 172:16-17.

Scholars and scientists reject this approach because it produces inaccurate information on phone location. Only experts should be permitted to testify to

cell tower locations based on CDR and to assess—based on additional data, testing, and verification—why a particular phone may have connected to a certain tower. Allowing lay witness testimony on these subjects runs the unacceptable risk of misleading the factfinder. As the Defendant correctly noted, "'[m]ore than in any other context, the criminal trial setting requires our most diligent effort to ensure that the truth emerges and that the right result is reached.'" (Db40) (quoting In re Hinds, 90 N.J. 604, 617 (1982)). Inaccurate lay testimony based solely on CDR leaves the factfinder further from the truth than it would be if it had the benefit of a broad-based analysis presented through expert testimony.

CONCLUSION

A lay witness should not be permitted to testify based on CDR about cell site location and explain that phones generally connect to cell sites based on proximity. Such testimony is inaccurate because the CDR itself does not establish proximity, and many factors affect which cell site a phone connects to. Such lay testimony also inaccurately suggests that CDR offers more precise information about phone location than it really does. These inaccuracies mislead the factfinder about the nature and accuracy of historical cell site information. That is exactly why scholars and scientists recommend basing assessments of phone location on a broad foundation of data, testing, and verification.

Requiring expert testimony in such circumstances accords with that expert consensus. It also represents the best way to avoid misleading the factfinder. Therefore, only experts should be permitted to testify about cell site locations based on CDR and to explain what role physical proximity may have played in causing a particular phone to connect to a certain tower at the time in question.

Respectfully submitted,

Pashman Stein Walder Hayden, P.C.
Attorneys for amicus curiae Larry E. Daniel, Executive Director of the Digital Forensics Justice Initiative

By: */s/ Howard Pashman*
Howard Pashman

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