

**Affirmed and Memorandum Opinion filed November 4, 2021.**



**In The**

**Fourteenth Court of Appeals**

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**NO. 14-19-00498-CR**

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**CHARLES MALCOLM ALYEA, Appellant**

**V.**

**THE STATE OF TEXAS, Appellee**

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**On Appeal from the 184th District Court  
Harris County, Texas  
Trial Court Cause No. 1476015**

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**MEMORANDUM OPINION**

Appellant Charles Malcolm Alyea appeals his conviction of murder. In one issue he contends that the trial court erred in admitting expert testimony regarding cell phone tower data. We affirm.

**RELIABILITY OF EXPERT TESTIMONY**

In his sole issue appellant argues that the trial court abused its discretion by allowing a detective to testify as an expert witness about the location of cellular phones based on “call detail records that gave the location of the connected tower.”

Appellant argues that because the detective could not “go beyond the reports provided by the cellular companies to explain the results they provided him, the State failed to make a clear and convincing showing that the detective’s expert conclusions had a reliable foundation.

#### **A. General Legal Principles**

Rule 702 of the Rules of Evidence provides that “[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue.” Tex. R. Evid. 702. Before admitting expert testimony under Rule 702, the trial court must be satisfied that three conditions are met: (1) the witness qualifies as an expert by reason of his knowledge, skill, experience, training, or education; (2) the subject matter of the testimony is appropriate for expert testimony; and (3) admitting the expert testimony will assist the fact finder in deciding the case. *Vela v. State*, 209 S.W.3d 128, 131 (Tex. Crim. App. 2006). These conditions are commonly referred to as (1) qualification, (2) reliability, and (3) relevance. *Id.*

Texas Rule of Evidence 705(c) governs the reliability of expert testimony and states that “[a]n expert’s opinion is inadmissible if the underlying facts or data do not provide a sufficient basis for the opinion.” Tex. R. Evid. 705(c). The reliability inquiry is flexible, at times focusing on the reliability of scientific knowledge, at other times on the expert’s personal knowledge and experience. *Vela*, 209 S.W.3d at 134. Indeed, experience alone may provide a sufficient basis for an expert’s testimony. *Id.* The proponent of the expert must establish some foundation for the reliability of the proffered expert’s opinion. *Id.*

To be considered reliable, evidence from a scientific theory must satisfy three criteria: “(a) the underlying scientific theory must be valid; (b) the technique applying the theory must be valid; and (c) the technique must have been properly applied on the occasion in question.” *Coble v. State*, 330 S.W.3d 253, 273 (Tex. Crim. App. 2010) (quoting *Kelly v. State*, 824 S.W.2d 568, 573 (Tex. Crim. App. 1992)). When “soft” sciences are at issue, the trial court must inquire “(1) whether the field of expertise is a legitimate one, (2) whether the subject matter of the expert’s testimony is within the scope of that field, and (3) whether the expert’s testimony properly relies upon and/or utilizes the principles involved in the field.” *Id.* (quoting *Nenno v. State*, 970 S.W.2d 549, 561 (Tex. Crim. App. 1998)). “This inquiry is somewhat more flexible than the *Kelly* factors applicable to Newtonian and medical science. *Id.* The general principles announced in *Kelly* apply, but the specific factors outlined in those cases may, or may not apply depending upon the context. *Id.* Regardless, under both *Kelly* and *Nenno*, reliability should be evaluated by reference to the standards applicable to the professional field in question. *Id.*

We review a trial court’s decision on whether to allow expert testimony for an abuse of discretion. *Gallo v. State*, 239 S.W.3d 757, 765 (Tex. Crim. App. 2007). Before reversing the trial court’s decision, we must find the trial court’s ruling was so clearly wrong as to lie outside the realm within which reasonable people might disagree. *See Taylor v. State*, 268 S.W.3d 571, 579 (Tex. Crim. App. 2008); *Green v. State*, 191 S.W.3d 888, 895 (Tex. App.–Houston [14th Dist.] 2006, pet. ref’d). Absent a clear abuse of discretion, the trial court’s decision to admit or exclude expert testimony will not be disturbed. *Wyatt v. State*, 23 S.W.3d 18, 27 (Tex. Crim. App. 2000).

## **B. Background**

The State called a detective with the Harris County Sheriff's Office as an expert to testify on the approximate location of appellant's cell phone before, during, and after the murders using appellant's cell phone records, one of the complainant's cell phone records, and a list of the cell phone towers in the area. The trial court conducted a hearing outside the presence of the jury to consider appellant's motion to exclude the detective's expert testimony.

At the hearing, the detective testified about his qualifications to opine on these subjects. He stated that he had been with the Harris County Sheriff's Office for sixteen years and investigating homicides for six years. The detective had sixty to seventy credited training hours in "cell phone related investigations" and another twenty to thirty hours working with another officer in the Houston Police Department.<sup>1</sup> He has also testified in other cases about cell phone mapping and that he uses an application of cell phone data in approximately 90% of his cases. The detective has looked at hundreds of cases with multiple phones in each case, using the cell phone data and "examining it." The detective testified that he was not a "scientist" on cell phone towers and could not go into the "underlying theories and why scientists believe that is a good science" behind cell phone tower mapping, that he could just read the data produced from the cell phone carriers. The detective also testified that the data was "good" because it had been used in thousands of courtrooms across the country and supported by the judges in those courtrooms.

The detective testified that he used the calls made in the cell phone records to plot distances from the cell towers connected to, to create "sectors" to generally

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<sup>1</sup> The officer that the detective worked with was "one of the longest tenured members of [the Houston Police Department's] criminal intelligence division who has testified in hundreds of trials with regard to cell phone mapping."

estimate where the cell phone is located at the time of the call. He explained that multiple phone calls made “eliminates the possibility of being off target. The more you have, the more information there is, the easier it is to paint that picture.” In this case the detective also used witness statements and surveillance footage to confirm that the data provided in the cell phone records was accurately portraying the sector plotted from the data. The detective also used additional records, such as cell phone records of other persons, to corroborate his findings or show how his findings might be faulty.

When asked whether it was possible that all the calls may have been routed to one tower, the detective testified that the calls could not have all been routed to one tower because when calls are being routed “off tower,” the records will mention that in the report. In addition to compiling the findings into a PowerPoint presentation, the detective sent his findings to another officer with the Houston Police Department for peer review. The detective also provided a report on his analysis and findings. The report states that “cell phones constantly monitor their environment, continuously communicating with the cellular network and looking for the best signal and tower (antenna) to camp on.”

The trial court concluded that the detective’s testimony about the mapping done from the cell phone records was admissible and complied with Rule 702 of the Rules of Evidence.

### **C. Analysis**

Appellant argues that the State failed to prove that the conclusions about the cell phones’ locations based on cell tower data were reliable, namely that the data that was used to compile the reports about the cell phone location was not proved to be reliable by the State. Appellant further argues that the detective wrongly assumed that cell phones always connect to the closest tower.

Here, the detective did not simply rely on the information in the reports provided by the cellular phone companies, but instead used other information to help identify faults or corroborate his findings based on the reports. Appellant’s argument is that the detective needs to know the underlying particularities regarding how cell phones connect or choose connections to cell towers before being able to testify reliably, but as other courts have concluded, this knowledge is not relevant to the “relatively simple task” of mapping the general location of the cell phone by using towers identified in the call records. *See Thompson v. State*, 425 S.W.3d 480, 489 (Tex. App.—Houston [1st Dist.] 2012, pet. ref’d); *Robinson v. State*, 368 S.W.3d 588, 601 (Tex. App.—Austin 2012, pet. ref’d); *see also Ward v. State*, No. 14-15-00473-CR, 2016 WL 6238339, \*10 (Tex. App.—Houston [14th Dist.] Oct. 25, 2016, pet. ref’d) (mem. op., not designated for publication).

Appellant argues that the detective could only say with confidence that the phone connected to a cell site somewhere within a radius of twenty miles, but because of the detective’s assumption that a cell phone would connect to the nearest tower the detective’s testimony is “unrealistic and untenable.” Regarding the allegation that the detective testified that a cell phone always connects to the closest tower, the record does not bear this out. The detective testified that he reviewed the cell phone records provided by the carriers, in this case AT&T and T-Mobile, to determine which tower the phones connected to at specific times during the relevant dates. Specifically, the detective reviewed records from appellant’s phone beginning on April 30, 2015, and ending on May 1, 2015. The detective also reviewed records from one of the complainant’s phones beginning on April 30, 2015, and ending on May 1, 2015. The records themselves show the tower connected to by the phone, there was no interpretation involved. The detective testified that if a call was being routed “off-tower” that it would be indicated in the records provided by the carrier, but that such an indication would not change the

location of the phone in relation to the tower. The detective also testified that a situation in which every call was routed to one tower would not happen.

The detective testified that he could “read the data that [the carriers] provide so that I can tell you the general location of a cell phone based on the information provided and where towers are located.” The detective testified that he could not:

give an exact distance of where the phone is going to be in relation to the tower. I can give a sector. What we do is generally estimate distances. Distances from the tower to where the phone should be or sector ends is a better term or generally estimated from approximately one half to two thirds the distance between the towers. Again, that’s an estimate.

[I]f all you have is one phone call, you can say, I suppose something could have gone haywire there. When you have multiple phone calls, that eliminates the possibility of it being off target. The more you have, the more information there is, the easier it is to paint that picture.

The detective’s report states that cell phones monitor their environments to look for the best signal, not necessarily the closest signal.

The detective took the data provided by the cellular phone companies and placed that data into the “field” by locating each cell site on a mapping program. The detective located the cell site from a satellite picture and then from a street view picture. The detective then connected the locations of those cell sites to other geographic locations of interest in the case, such as the murder scenes, the homes of appellant and one of the complainants, the home of other witnesses, the home of appellant’s parents, and a gas station where appellant purchased lighter fluid. The detective also indicated that he checked his results through other evidence he collected in the case, such as the surveillance video at the Shell station where appellant purchased lighter fluid the night of the murders, as well as witness statements about where the appellant or one of the complainants were at different

times on the night of the murders. Lastly, the detective indicated that his results were reviewed by another officer in the Houston Police Department.

The detective did not testify that the cell phones used by appellant and the complainant were necessarily closest to the towers that they connected to, just that the towers told him the direction the phones connected from and that it limited the location of the phones to a certain geographic sector. For instance, the detective testified that between 11:30 p.m. and 11:51 p.m. on April 30, 2015, both the appellant and a complainant were “somewhere in the vicinity of Cloverleaf” and “somewhere in the vicinity of the eastern portion of Cloverleaf.” The detective indicated that, because enough calls were made, he had sufficient information to see the “general way they traveled” but couldn’t tell what streets or routes were taken. In his analysis, the detective used multiple cell tower connections over many hours, which he testified reduced the likelihood of any error.

Appellant also provides case examples to illustrate how wrongful convictions may be obtained from this type of testimony. However, appellant fails to detail how the evidence was faulty in the overturned cases or how such principles are applicable to the case at hand. For instance, in one of appellant’s case examples, Lisa Roberts’s ex-girlfriend was murdered, and her body was found in a park. *Roberts v. Howton*, 13 F. Supp. 3d 1077, 1081 (D. Or. 2014). Detectives reviewed Roberts’s cell phone records and found that her phone connected to a tower within four miles of the park where the body was found on the morning of the murder. *Id.* at 1086–88. When confronted with this information, Roberts’s defense counsel recommended that she plead guilty to the lesser charge of manslaughter. *Id.* at 1101. Roberts accepted the plea. *Id.* Years later upon petition for writ of habeas corpus, the court concluded that her defense counsel had rendered ineffective assistance for failing to hire their own expert witness to investigate the cell phone records and tower data to put on evidence to

refute the prosecutor’s possible expert witness testimony. *Id.* As part of the writ proceeding, in order to show that refuting the conclusions drawn by the prosecutor’s expert was possible, Roberts attached expert reports from two experts to support her assertion that had her counsel conducted a reasonable investigation or consulted with an expert, he would have understood the evidence against Roberts better and advised her accordingly. *Id.* at 1102. The court concluded that counsel’s conduct fell below an objective standard of reasonableness because his “assessment of the evidence, and his failure to retain an expert, was not based upon a reasonable investigation or understanding of the evidence.” *Id.* “[T]he presentation of expert testimony at trial, concerning the variables impacting the reliability of the cell tower evidence to pinpoint the caller’s location, likely would have changed the outcome of the trial.” *Id.*

In this case, the detective merely offered geographic sectors from the records provided.<sup>2</sup> The detective did not purport to offer a “pin-point” location of the appellant on the dates analyzed. Appellant was permitted to cross-examine the detective and highlight that the particular methodology used is subject to limitations. *See Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 596 (1993) (“Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”).

Under the circumstances presented herein, based on the testimony of the detective and how he arrived at his conclusions and that they were supported by

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<sup>2</sup> Texas appellate courts have repeatedly classified this type of testimony as non-complex and relatively “straight-forward.” *See Thompson v. State*, 425 S.W.3d 480, 488–89 (Tex. App.—Houston [1st Dist.] 2012, pet. ref’d); *Robinson v. State*, 368 S.W.3d 588, 599–601 (Tex. App.—Austin 2012, pet. ref’d); *Ward v. State*, 14-15-00473-CR, 2016 WL 6238339 (Tex. App.—Houston [14th Dist.] Oct. 25, 2016, pet. ref’d) (mem. op., not designated for publication); *Patterson v. State*, 05-13-00450-CR, 2015 WL 2400809 (Tex. App.—Dallas May 19, 2015, pet. ref’d) (not designated for publication).

other data, such as eyewitness testimony, surveillance footage at the Shell station, and camera footage from the homes of witnesses that corroborate the detective’s expert report, we cannot conclude that the trial court abused its discretion in determining the expert’s testimony regarding the location of the cell phones based on the cell phone records was reliable in this case. *See Rhomer v. State*, 569 S.W.3d 664, 672 n.1 (Tex. Crim. App. 2019) (“Reliability is evaluated by looking at the method the expert used to come to his conclusions. [The expert’s] testimony was reliable because it was based on the information he gathered at the scene: the measurements he took, the pictures he captured, the damage he observed, and the diagram he created.”); *see also William v. State*, 606 S.W.3d 48, 56 (Tex. App.—Houston [1st Dist.] 2020, pet. ref’d) (“The task [the expert] was called upon to perform was not complex and it was verifiable. . . . Cell phone records showed the exact tower to which the phone connected, and [the expert] testified that she checked the records for accuracy. . . . the trial court did not abuse its discretion when it determined that [the expert’s] opinion on the general location of . . . the phones was reliable.”).

We overrule appellant’s sole issue on appeal.

### CONCLUSION

Having overruled appellant’s sole issue on appeal, we affirm the judgment of the trial court.

/s/ Ken Wise  
Justice

Panel consists of Justices Wise, Bourliot, and Spain.

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