

THE STATE OF SOUTH CAROLINA
In The Court of Appeals

The State, Respondent,

v.

Michael Levant Mealor, Appellant.

Appellate Case No. 2013-002752

Appeal From Pickens County
Robin B. Stilwell, Circuit Court Judge

Opinion No. 5590
Heard February 7, 2018 – Filed August 15, 2018
Withdrawn, Substituted, and Refiled February 27, 2019

AFFIRMED

Ryan Christopher Andrews, of Cobb, Dill & Hammett, LLC, of Mount Pleasant; and Chief Appellate Defender Robert Michael Dudek, of Columbia, both for Appellant.

Attorney General Alan McCrory Wilson and Senior Assistant Deputy Attorney General Deborah R.J. Shupe, both of Columbia; and Solicitor William Walter Wilkins, III, of Greenville, all for Respondent.

KONDUROS, J.: Michael Levant Mealor (Mealor) appeals his conviction of trafficking methamphetamine in the amount of twenty-eight grams or more but less than one hundred grams. He contends the trial court erred in permitting the introduction of logs from a national database of pseudoephedrine sales. He also argues the trial court erred in allowing testimony on the theoretical yield of

methamphetamine from the amount of pseudoephedrine allegedly purchased by or for him. Additionally, Mealor maintains the trial court erred in denying his motion for a directed verdict. We affirm.

FACTS

John Ross, a volunteer reserve deputy for the Pickens County Sheriff's Office (the Office), monitored the National Precursor Log Exchange (NPLEx)¹ for the Office. Ross noticed a trend of individuals with the same address purchasing pseudoephedrine on the same day or within a few days of each other.² He suspected those individuals were "smurfing," which is the practice in which methamphetamine manufacturers will recruit others to purchase pseudoephedrine for them in exchange for money or drugs due to limits on how much pseudoephedrine a person can purchase.³ Ross began monitoring those individuals' purchases and signed up to receive notifications in NPLEx for any attempted purchases by them. The Office also began surveilling those individuals.

In November 2011, officers received notice Mealor had purchased pseudoephedrine at a pharmacy. Officers went to the pharmacy and observed a car associated with the case parked at another pharmacy across the street. The officers waited and observed Cynthia Greenfield⁴ exit the store. The officers then received a notification Greenfield had purchased pseudoephedrine. The officers followed the car anticipating the occupants might go to a hardware store to get supplies for making methamphetamine. However, the car instead drove toward the residence, traveling over forty miles per hour in a twenty-five-miles-per-hour speed limit zone. The officers initiated a traffic stop for speeding. Amanda Hayes Hurley was driving and Daniel Ray Hurley, Mealor, and Greenfield were passengers along with infant children. Amanda had a suspended license, and the officers asked for her permission to search the vehicle, which she gave. The officers found two boxes of cold medicine containing pseudoephedrine—the same boxes for which the officers had received the earlier alerts.

¹ The NPLEx is an electronic database housing all pseudoephedrine purchases in twenty-nine states.

² Some of the individuals using that address were Mealor, Carol Denise Hayes (Hayes), and Brandon Hayes.

³ Those limits in South Carolina are 3.6 grams per day, 9 grams per month, and 108 grams a year. *See* S.C. Code Ann. § 44-53-398(B)(2) (2018).

⁴ Although some testimony indicates Greenfield and Mealor were "boyfriend and girlfriend," other testimony indicates they married shortly before their trial.

In June 2012, officers arrested many of the individuals they believed were involved. On December 10, 2013, the grand jury indicted Mealor on one count of trafficking over one hundred grams of methamphetamine. Trial began on December 16, 2013, for Mealor, Greenfield,⁵ and Hayes, who is Mealor's sister as well as Amanda's mother. Many witnesses testified about activities relating to methamphetamine occurring at a house owned by Louise Mealor—Mealor and Hayes's mother—and indicated Mealor, Greenfield, and Hayes all lived in the house. Other witnesses testified Jason Mealor —Hayes's son—and his then girlfriend, Melissa Wardlaw, also lived in the house.

Multiple witnesses⁶ testified about buying medicines with pseudoephedrine to give to Mealor or Greenfield. Rebecca Crisp testified she gave pseudoephedrine she purchased to Hayes, who put it in the bedroom Mealor and Greenfield used. A few of those witnesses indicated they bought some of the pseudoephedrine to treat allergy or sinus problems for themselves, their children, or other family members. Several witnesses testified they would receive methamphetamine from Mealor or Greenfield after they gave them pseudoephedrine they bought. A few witnesses stated they received other drugs or money in return. One witness testified about going to various pharmacies with Mealor and Greenfield to buy pseudoephedrine. Many witnesses also testified about using methamphetamine with them or seeing it used at their home. Several witnesses testified about different supplies that are used in making methamphetamine, such as plastic bottles, batteries, ether, and big bottles of Coleman fuel. One witness indicated she asked Greenfield why she had so many plastic bottles and was told it was because Greenfield and Mealor could feel them expand unlike with glass. Some witnesses also testified the place had a toxic or strong smell. One witness indicated Greenfield told her "the less [you] know, the better off [she] was" when she asked about the smell. Some witnesses testified Greenfield and Mealor told them they were going to make methamphetamine so it would be a cleaner product than what they were buying as well as cheaper. Angela Armstrong testified she knew Mealor and Greenfield would be making methamphetamine out of the pseudoephedrine she gave them because they told her they were. Wardlaw testified Greenfield and Mealor told her they could make methamphetamine. Thomas Rooney testified he saw Mealor and Greenfield making methamphetamine in their bedroom in the house several times.

⁵ Greenfield also appealed to this court.

⁶ Each witness had a trafficking methamphetamine charge pending against him or her. They all testified they had not been promised anything in exchange for their testimony.

Rooney stated the process of making methamphetamine has a strong smell and causes the place where it is being manufactured to become "really smoky." He indicated he had seen Mealor and Greenfield shaking plastic drink bottles to make the methamphetamine. Billy Miller testified that when he gave Mealor and Greenfield the pseudoephedrine they told him they were going to make methamphetamine out of it.

The State presented testimony from Paul Forst, a business data analyst employed by Appriss, the company that maintains the NPLEx database. He indicated he was the records custodian for the logs. Over objections, the State introduced the NPLEx record for each of the defendants on trial and the witnesses and others charged with the same offenses. The NPLEx record for Mealor shows he purchased 69.36 grams and was blocked from purchasing it seven times for a total of thirty-seven attempts during 2011. The NPLEx record for Greenfield shows she purchased 68.64 grams and was blocked from purchasing it an additional five times for a total of thirty-four attempts in the same time period.

Captain Chad Brooks with the Office also testified. He provided he had been involved in the seizure of close to two hundred methamphetamine labs. He indicated he had manufactured methamphetamine once in a lab setting. He stated he was trained how to calculate the yield that could be produced from a particular amount of pseudoephedrine.⁷ Captain Brooks testified 92% was about the highest yield one could obtain and 40 to 50% is the lowest yield amount one could obtain "assuming it doesn't flash fire and assuming you[re] successful." He indicated 40% was the "worst case scenario." The yield percentage depends on a lot of factors such as how long one waited for the extraction to occur and spillage. He testified the things normally observed at a home lab are sulfuric acid (drain cleaner), coffee filters, funnels, bottles, Xylene, ether, starter fluid cans, cut batteries, medication blister packs, and burn piles. He testified the labs are "very

⁷ All three defendants objected when the State first asked Captain Brooks about his training on calculating the yield of methamphetamine from pseudoephedrine. The State questioned Captain Brooks specifically on his qualifications. The trial court overruled the objection, finding it was not necessary for the witness to have certain degrees and that it went to credibility as opposed to admissibility. Mealor then voir dired Captain Brooks. The trial court qualified him as an expert and stated that it did not know what Captain Brooks's testimony would entail because the court had not yet heard it. Once Captain Brooks started testifying about possible yield, Greenfield renewed the objection, stating "[i]t's, basically, chemistry testimony." Mealor joined the renewal, which the trial court overruled.

portable and easy to dispose of." He also testified producing methamphetamine creates a distinct smell. Captain Brooks testified on cross-examination he did not find any methamphetamine manufacturing equipment at the scene or on any of the defendants.

At the close of the State's case, Greenfield moved for a directed verdict and Mealor joined in that motion. They contended only one witness testified he saw Greenfield and Mealor make methamphetamine. They asserted because trafficking requires at least ten grams of methamphetamine and the State presented no evidence of any particular amount of methamphetamine, the State's case was speculative. Mealor also argued that assuming a 40% yield from the pseudoephedrine witnesses indicated they gave him and Greenfield, the result would be sixty-three grams of methamphetamine, which was less than the charge for which they were on trial—trafficking one hundred grams. The trial court denied the motion for a directed verdict on trafficking under one hundred grams but took under advisement trafficking over one hundred grams.

Mealor and Greenfield both testified in their own defense. They both stated all of the pseudoephedrine they bought was to treat their allergy and sinus problems. They both indicated they had a problem with others stealing some of the pseudoephedrine they bought. Mealor testified he had been using Sudafed since he was thirteen years old due to his doctor's recommendation at the time. He also provided he did not have a way to get to the store, so he would buy pseudoephedrine whenever someone drove him to the store. He agreed that according to the NPLEx records, he bought 69.36 grams of pseudoephedrine in 2011, which was under the limit of 108 grams that one person could legally buy in one year. Greenfield admitted to attempting to buy pseudoephedrine thirty-four times in 2011, including the times she was blocked for being over the monthly limit.

Mealor explained on cross-examination he and Greenfield often purchased pseudoephedrine at the same store around the same time because they "stayed together all the time. [They] never left each other's side." He contended the fact he bought pseudoephedrine at the same pharmacy or a nearby pharmacy within a short period of time (i.e. thirty minutes) of many of the witnesses was a coincidence. Greenfield asserted the same. Greenfield also testified she bought pseudoephedrine from several different pharmacies because she had prescriptions for medications at various pharmacies. Both Greenfield and Mealor asserted that during the time period at issue, they did not live at the address where the State alleged the methamphetamine was being made. They both indicated Jason and

Wardlaw lived there. Instead, Greenfield and Mealor along with Greenfield's daughter, Julie Williams, contended they lived at Williams's home to help care for her while she was pregnant. However, Greenfield admitted that at times they would stay at the house in question for periods of several nights.

At the close of the defendants' case, Mealor and Greenfield renewed their motions for a directed verdict on the charge of trafficking over one hundred grams of methamphetamine. The State asserted the amount of the pseudoephedrine purchases the witnesses testified they gave Mealor combined with his own purchases amounted to a total of 161 grams of pseudoephedrine. The State provided the amount of the witness's pseudoephedrine purchases they testified they gave Greenfield combined with her own purchases amounted to a total of 182 grams of pseudoephedrine. The State indicated Mealor's amount did not include Greenfield's purchases and vice versa. Greenfield and Mealor disputed these figures. Greenfield alleged the witnesses testified they gave Mealor or Greenfield 80 grams of their purchases whereas Mealor asserted it was 132 grams, not including the amounts they purchased themselves.

The trial court denied the motion, finding when taking the light most favorable to the State as the nonmoving party, the yield used to calculate the possible amount produced would be the highest yield possible and because the defendants agreed with the amount of pseudoephedrine the witnesses testified they gave the defendants, the possible produced methamphetamine would be above one hundred grams. The court also found that because the statute makes it illegal to conspire to manufacture methamphetamine, the numbers could be used in the aggregate and not necessarily allotted to the defendant to whom the witness testified they gave the pseudoephedrine. The trial court determined the jury could find credible the testimony the yield could be 92%. The State requested to amend the indictment to trafficking between twenty-eight and one hundred grams, given the evidence presented, which the trial court granted.

During closing arguments, the State posited the witnesses testified they gave 164.64 grams of pseudoephedrine to Mealor during 2011. The State asserted when combined with the amount his NPLEx record indicates Mealor purchased himself, this amounted to 243 grams. For Greenfield, the State contended the witnesses gave her 179.76 grams, which it alleged amounted to 248 grams when combined with the amount her NPLEx record showed she purchased. The State argued that when Captain Brooks's lowest yield of 40% was applied to those amounts, the amount of methamphetamine produced was 65 grams for Mealor only accounting

for the 164 grams given to him and about 100 grams of methamphetamine when the amount of pseudoephedrine he purchased himself was added.

The jury convicted Mealor and Greenfield of trafficking twenty-eight grams or more but less than one hundred grams of methamphetamine. The trial court sentenced them each to nine years' imprisonment.⁸ This appeal followed.⁹

LAW/ANALYSIS

I. NPLEx Logs

Mealor argues the trial court erred in admitting the NPLEx logs into evidence because the records (1) did not meet the business records exception to hearsay, (2) lacked a foundation, and (3) violated Rule 403, SCRE. We disagree and address each argument in turn.

"The admission of evidence is within the discretion of the trial court and will not be reversed absent an abuse of discretion." *State v. Pagan*, 369 S.C. 201, 208, 631 S.E.2d 262, 265 (2006). "An abuse of discretion occurs when the conclusions of the trial court either lack evidentiary support or are controlled by an error of law." *Id.*

A. Business Records Exception to Hearsay

⁸ The jury found Hayes guilty of criminal conspiracy. The trial court sentenced her to three years' imprisonment.

⁹ After Mealor filed his appeal and obtained the transcript, he moved to have the record reconstructed due to alleged errors and omissions. This court granted the motion on June 1, 2015, and remanded the cases to the trial court to reconstruct the record. The trial court and trial attorneys convened and attempted to supplement the missing portions of the record. After the trial court determined they had satisfactorily reconstructed the record, Mealor's appellate counsel asked for an order stating the record could not be reconstructed. The trial court denied that request, finding the record had been successfully reconstructed. Mealor appealed that denial to this court on March 9, 2016. On July 22, 2016, Mealor requested to drop his appeal regarding the reconstruction of the record. This court granted that motion on August 17, 2016, and this appeal proceeded.

Mealor contends the NPLEx logs did not meet the business records exception to hearsay. He asserts the logs are only created in anticipation of litigation. We disagree.

"Hearsay' is a statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted." Rule 801(c), SCRE. According to Rule 801(a), SCRE, "[a] 'statement' is (1) an oral or written assertion or (2) nonverbal conduct of a person, if it is intended by the person as an assertion." Further, "[a] 'declarant' is a person who makes a statement." Rule 801(b), SCRE.

According to the business records exception to the rule against hearsay, evidence is not excluded by the hearsay rule if it is:

A memorandum, report, record, or data compilation, in any form, of acts, events, conditions, or diagnoses, made at or near the time by, or from information transmitted by, a person with knowledge, if kept in the course of a regularly conducted business activity, and if it was the regular practice of that business activity to make the memorandum, report, record, or data compilation, all as shown by the testimony of the custodian or other qualified witness, unless the source of information or the method or circumstances of preparation indicate lack of trustworthiness

Rule 803(6), SCRE; *see also* S.C. Code Ann. § 19-5-510 (2014) ("A record of an act, condition or event shall, insofar as relevant, be competent evidence if the custodian or other qualified witness testifies to its identity and the mode of its preparation, and if it was made in the regular course of business, at or near the time of the act, condition or event and if, in the opinion of the court, the sources of information, method and time of preparation were such as to justify its admission.").

While South Carolina has not addressed whether NPLEx logs meet the business records exception to hearsay, many other jurisdictions have examined if these or similar logs can be admitted into evidence. The Fifth Circuit Court of Appeals has addressed the admission of these logs in depth. Specifically, that court found "the pseudoephedrine purchase logs were business records for the purposes of Federal

Rule of Evidence 803(6)¹⁰[—]admissible under the exception to the hearsay rule via the affidavits certifying their status." *United States v. Towns*, 718 F.3d 404, 407 (5th Cir. 2013).

In *Towns*, the defendant contended, as Mealor does here, the logs "were prepared with a law enforcement purpose in mind and are only kept because . . . a [state] statute mandates their existence; the pharmacies do not (and actually cannot) use the records for day-to-day business activities. Thus[,] they were not kept in the ordinary course of business." *Id.* at 407-08. However, the court determined "the undue focus on the law enforcement purpose of the records has little to do with whether they are business records under the Federal Rules of Evidence. What matters is that they were kept in the ordinary course of business." *Id.* at 408. The court noted, "It is not uncommon for a business to perform certain tasks that it would not otherwise undertake in order to fulfill governmental regulations. This does not mean those records are not kept in the ordinary course of business." *Id.* (citation omitted). The court ultimately held, "The regularly conducted activity here is selling pills containing pseudoephedrine; the purchase logs are kept in the course of that activity. Why they are kept is irrelevant at this stage." *Id.* (footnote omitted).

The *Towns* court further explained, "The pharmacies created these purchase logs *ex ante* to comply with state regulatory measures, not in response to an active prosecution. Additionally, requiring a driver's license for purchases of pseudoephedrine deters crime." *Id.* at 411. "The state thus has a clear interest in businesses creating these logs that extends beyond their evidentiary value. . . . [T]he purchase logs were not prepared specifically and solely for use at trial" *Id.*

Similarly, the Seventh Circuit Court of Appeals has also looked at this issue and noted, "NPLE[x] logs are regularly maintained and updated each time an individual purchases an over-the-counter cold medicine that includes pseudoephedrine." *United States v. Lynn*, 851 F.3d 786, 793 (7th Cir. 2017). That court noted, "[S]tate regulatory bodies may have legitimate interests in maintaining these records that far exceed their evidentiary value in a given case. For example, requiring identification for each pseudoephedrine purchase may deter misuse or pseudoephedrine-related drug offenses. *Id.*

¹⁰ South Carolina's Rule 803(6) differs slightly from the federal rule to be consistent with state law. *See* Rule 803 note, SCRE.

The Sixth Circuit Court of Appeals has looked at the admission of similar logs. That court determined, "[T]he . . . reports at issue in this case were not made to prove the guilt or innocence of any particular individual, nor were they created for solely evidentiary purposes." *United States v. Collins*, 799 F.3d 554, 586 (6th Cir. 2015). The court further explained, "Although law enforcement officers may use [the] records to track pseudoephedrine purchases, the . . . system is designed to prevent customers from purchasing illegal quantities of pseudoephedrine by indicating to the pharmacy employee whether the customer has exceeded federal or state purchasing restrictions." *Id.* The court concluded "it is improbable that a pharmacy employee running a standard identification check of a customer would have anticipated that the records of that transaction would later be used against these particular defendants at trial." *Id.*

The Eighth Circuit has also noted that "pseudoephedrine logs . . . kept in the ordinary course of business pursuant to [state] law . . . are business records under Federal Rule of Evidence 803(6)." *United States v. Mashek*, 606 F.3d 922, 930 (8th Cir. 2010). Moreover, the Indiana Court of Appeals has explained, "[A]lthough NPLEx records may occasionally be used to establish or prove some fact at trial, that is not the main purpose of the NPLEx records." *Montgomery v. State*, 22 N.E.3d 768, 775 (Ind. Ct. App. 2014). "[T]he main purpose of the NPLEx records is to enable the [National Association of Drug Diversion Investigators (NADDDI)] to track and regulate the sale of non-prescription . . . pseudoephedrine. Accordingly, the main purpose of the NPLEx records is not to establish or prove some fact at trial." *Id.*

South Carolina statute mandates the steps retailers of pseudoephedrine must take when completing a purchase. S.C. Code Ann. § 44-53-398(D) (2018). Specifically, it provides:

- (1) A retailer selling nonprescription products containing . . . pseudoephedrine . . . shall require the purchaser to produce a government issued photo identification showing the date of birth of the person and require the purchaser to sign an electronic log showing the date and time of the transaction, the person's name and address, the type, issuing governmental entity, identification number, and the amount of the compound, mixture, or preparation. The retailer shall determine that the name entered in the log corresponds to the name on the identification and that the date and time entered are

correct and shall enter in the log the name of the product and the quantity sold. . . .

(2) Before completing a sale of a product regulated by this section, the retailer electronically shall transmit the information entered in the log to a data collection system provided by the [NADDI], or a successor or similar entity. The system must collect this data in real time and generate a stop sale alert if the sale would result in a violation of subsection (B) or a federal quantity restriction, which must be assessed on the basis of sales or purchases made in any state to the extent that information is available in the data collection system.

Id.

We agree with the above cited jurisdictions and find NPLeX logs are not created for litigation purposes and are admissible under the business records exception to the rule against hearsay. First, the records custodian employed by Appriss—the company that maintains the NPLeX database—testified all South Carolina pharmacies were required to report to NPLeX starting on January 1, 2011. The NPLeX records were created to comply with state statutes, not to investigate a specific case or individual. Thus, we find the trial court correctly did not abuse its discretion in finding the NPLeX records fall under the business record exception to hearsay.

B. Foundation

Mealor also maintains a proper foundation was not laid to admit the NPLeX logs. He contends testimony from the specific individual employees who sold pseudoephedrine to Mealor or his codefendants was required, one pharmacist did not testify with certainty as to which database she entered the data, and no information was presented regarding the date the NPLeX logs were requested. We disagree.

This court has held that before the trial court may admit a business record into evidence, a qualified witness must "lay the foundation to meet the requirements of Rule 803(6) and section 19-5-510." *Deep Keel, LLC v. Atl. Private Equity Grp., LLC*, 413 S.C. 58, 73, 773 S.E.2d 607, 615 (Ct. App. 2015). *Black's Law Dictionary* defines "laying a foundation" as "[i]ntroducing evidence of certain facts

needed to render later evidence relevant, material, or competent." *Laying a Foundation*, *Black's Law Dictionary* (10th ed. 2014). "'[F]oundation' is simply a loose term for preliminary questions designed to establish that evidence is admissible." *A.I. Credit Corp. v. Legion Ins. Co.*, 265 F.3d 630, 637 (7th Cir. 2001)). Our court has noted "[t]he Uniform Business Records as Evidence Act . . . contains prerequisites to admission of the record." *State v. Sarvis*, 317 S.C. 102, 107, 450 S.E.2d 606, 609 (Ct. App. 1994). In *Sarvis*, this court did not admit into evidence one page of a document because the custodian of the records testified she had no knowledge of the "program [referenced on that page of the document] and no further foundation was presented to establish the manner in which the records were prepared." *Id.* This court concluded "[t]he requirements of the statute were not satisfied[;] therefore[,] the document was properly excluded." *Id.*

The Fifth Circuit also dealt with foundation arguments in *Towns* similar to the ones Mealor makes here. 718 F.3d at 407-08. The court found "the affidavit of a record custodian is sufficient to lay the foundation for a business record," explaining, "There is . . . no need to have individual cashiers from each of the pharmacies testify. The drug purchases of specific individuals on some date years prior could never be remembered anyway; this is the genesis of the business records exception." *Id.* at 410. "What is more important—and actually required—is the testimony of the custodian who ensures such records are free from adulteration after the fact." *Id.* (footnote omitted).

The *Towns* court further noted: "[A]ny claim concerning the records' accuracy is not the province of Rule 803(6). . . . [The defendant] was free to make arguments at trial that he was not the actual purchaser of the drugs, but accuracy does not control admissibility." *Id.* The court explained, "The purchase logs comprised records of a regularly conducted activity, which were made at or near the time of the purchase by individuals whose job duties entailed making those records." *Id.* Ultimately, the court held, "Because this information was certified by the records custodians' affidavits and there was no evidence of untrustworthiness in the record-keeping procedures, the pseudoephedrine purchase logs are admissible business records." *Id.*

Mealor's reasons in support of his argument the NPLEx logs lacked a foundation for the admission are in essence contentions the State did not meet specific elements of Rule 803(6) for admitting evidence as a business records exception. Here, three pharmacists from area pharmacies testified as to the procedure for when a person purchases pseudoephedrine from their stores, which includes scanning the barcode of the purchaser's government issued identification card

through the NPLEx system. They provided their pharmacies require training for using the system. Meador points to the fact that these witnesses did not testify as to observing a particular purchase by Meador or the others involved here. We agree with the *Towns* court "[t]here is . . . no need to have individual cashiers from each of the pharmacies testify. The drug purchases of specific individuals on some date years prior could never be remembered anyway; this is the genesis of the business records exception." *Id.* Additionally, Meador notes that one of the witnesses testified the database she entered the data into was a government database. However, Forst explained all South Carolina pharmacies are required to report the sales to the NPLEX system. As Forst is the records custodian, and the NPLEX logs were admitted during his testimony, the fact that one pharmacist did not identify the exact database does not affect the trustworthiness and reliability of the NPLEX logs.

Rule 803(6) states the necessary information is "shown by the testimony of the custodian." Here, Forst, the records custodian, indicated he had access to the records that Appriss maintains and controls. He explained the procedure the pharmacies used to check identification for purchasers. He stated the data was "stored in a secured data warehouse in a database" and Appriss has "a redundant system as a backup stored in another facility." He provided "[t]he only people that have access to them are individuals that work with the product at Appriss and the records are also available to law enforcement by law. They can access them through a web portal that we provide for law enforcement, that once they are vetted and receive an account, then they can access and search the records." He responded affirmatively when asked if the "records are kept in your ordinary course of business." The testimony by Forst, the records custodian, provided exactly the information Rule 803(6) requires. *See Towns*, 718 F.3d at 410 ("What is more important—and actually required—is the testimony of the custodian who ensures such records are free from adulteration after the fact." (footnote omitted)).

Further, Meador contends the NPLEX logs lacked foundation because the State presented no information regarding the date the NPLEX logs were requested. When the State sought to admit the NPLEX logs at trial, Meador objected to the fact they did not reference what date range was requested to be printed out but acknowledged the records specified the date each purchase occurred. The timing aspect of Rule 803(6) states the record must be "made at or near the time" of the events. *See Towns*, 718 F.3d at 410 ("The purchase logs comprised records of a regularly conducted activity, which were made at or near the time of the purchase by individuals whose job duties entailed making those records."). The pharmacists who testified provided how they entered the information as to who was purchasing

the pseudoephedrine *at the time the purchase was being made*. Forst explained that within a second of when a pharmacy inputs the purchaser's information, that information is sent to Appriss to ensure the purchaser would not be exceeding any of the limits for purchasing pseudoephedrine. Mealor's contention the State did not provide the date range for which the records were requested is not the timing aspect Rule 803(6) requires.¹¹ Therefore, the trial court did not err in finding the State had laid a foundation for the NPLeX logs. Accordingly, the trial court did not abuse its discretion in admitting the NPLeX logs into evidence.¹²

II. Expert Testimony

Mealor asserts the trial court erred in allowing Captain Brooks's testimony regarding the theoretical yield of methamphetamine from the amount of pseudoephedrine available. He contends Captain Brooks did not have the expertise to testify as to the yield amount because he had no training in chemistry. Mealor further maintains the trial court erred in finding the testimony reliable. We disagree.

¹¹ Mealor's argument at trial about a lack of foundation that dealt with timing of the records seems to vary slightly from that issue raised on appeal. At trial, the issue was the records did not address which date range was entered into the computer system to produce the documents presented at trial. Mealor stated, "Those documents have no date range of purchase. . . . I don't know what was requested. It's not on the face of the document." Whereas on appeal, Mealor's argument stated "the NPLe[x] logs did not contain the date in which the records were requested nor was any evidence offered as to when such requests were made." To the extent Mealor is raising a different argument on appeal, that argument would be unpreserved. *See State v. Haselden*, 353 S.C. 190, 196, 577 S.E.2d 445, 448 (2003) (finding that when a defendant objects on one basis at trial but argues a different basis for the objection on appeal, the issue is not preserved for review). However, regardless of which of the two specific arguments regarding timing is being made, neither of these issues concern the actual timing aspect required by Rule 803(6).

¹² Mealor also argues the admission of the NPLeX logs violated Rule 403, SCRE. We find this argument unpreserved because none of the defendants objected to the NPLeX logs on this basis. *See Haselden*, 353 S.C. at 196, 577 S.E.2d at 448 (determining that when a defendant objects on one basis at trial but argues a different basis for the objection on appeal, the issue is not preserved for review).

"The qualification of an expert witness and the admissibility of the expert's testimony are matters largely within the trial court's discretion." *State v. Harris*, 318 S.C. 178, 181, 456 S.E.2d 433, 435 (Ct. App. 1995). "An abuse of discretion occurs when the conclusions of the trial court either lack evidentiary support or are controlled by an error of law." *State v. Wise*, 359 S.C. 14, 21, 596 S.E.2d 475, 478 (2004). The trial court does not abuse its discretion in qualifying experts and allowing their testimony as long as the witnesses have "acquired by study or practical experience such knowledge of the subject matter of [their] testimony as would enable [them] to give guidance and assistance to the jury in resolving a factual issue [that] is beyond the scope of the jury's good judgment and common knowledge." *State v. Anderson*, 407 S.C. 278, 285, 754 S.E.2d 905, 908 (Ct. App. 2014) (quoting *State v. Goode*, 305 S.C. 176, 178, 406 S.E.2d 391, 393 (Ct. App. 1991)).

Rule 702, SCRE, provides: "If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education[] may testify thereto in the form of an opinion or otherwise." "All expert testimony must satisfy the Rule 702 criteria, and that includes the trial court's gatekeeping function in ensuring the proposed expert testimony meets a reliability threshold for the jury's ultimate consideration." *State v. White*, 382 S.C. 265, 270, 676 S.E.2d 684, 686 (2009). "'Th[e] language [in Rule 702] makes no relevant distinction between "scientific" knowledge and "technical" or "other specialized" knowledge. It makes clear that any such knowledge might become the subject of expert testimony.'" *Id.* (quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999)). "Hence, as a matter of language, the Rule applies its reliability standard to all "scientific," "technical," or "other specialized" matters within its scope.' Reliability is a central feature of Rule 702 admissibility" *Id.* (quoting *Kumho Tire Co.*, 526 U.S. at 147).

However, "the reliability of a witness's testimony is not a pre[]requisite to determining whether or not the witness is an expert." *State v. Tapp*, 398 S.C. 376, 388, 728 S.E.2d 468, 474 (2012). "The expertise, [the] reliability, and the ability of the testimony to assist the trier of fact are all threshold determinations to be made prior to the admission of expert testimony, and generally, a witness's expert status will be determined *prior* to determining the reliability of the testimony." *Id.* at 388, 728 S.E.2d at 474-75. "[A]ll expert testimony, not just scientific expert testimony, must be vetted for its reliability prior to its admission at trial." *Id.* at 388, 728 S.E.2d at 474.

"The familiar tenet of evidence law that a continuing challenge to evidence goes to 'weight, not admissibility' has never been intended to supplant the gatekeeping role of the trial court in the first instance in assessing the admissibility of expert testimony, including the threshold determination of reliability." *White*, 382 S.C. at 273, 676 S.E.2d at 688. "Nonscientific expert testimony must satisfy Rule 702, both in terms of expert qualifications and reliability of the subject matter." *Id.* "Courts are often presented with challenges on both fronts[—]qualifications and reliability. The party offering the expert must establish that [the] witness has the necessary qualifications in terms of 'knowledge, skill, experience, training[,] or education.'" *Id.* (quoting Rule 702, SCRE). "With respect to qualifications, a witness may satisfy the Rule 702 threshold yet the opponent may still challenge the amount or quality of the qualifications." *Id.* "It is in this latter context that the trial court properly concludes that 'defects in the amount and quality of education or experience go to the weight to be accorded the expert's testimony and not its admissibility.'" *Id.* at 273-74, 676 S.E.2d at 688 (quoting *State v. Myers*, 301 S.C. 251, 256, 391 S.E.2d 551, 554 (1990)). "Turning to the reliability factor, a trial court may ultimately take the same approach, but only after making a threshold determination for purposes of admissibility." *Id.* at 274, 676 S.E.2d at 688.

"The admissibility of *scientific* evidence depends upon 'the degree to which the trier of fact must accept, on faith, scientific hypotheses not capable of proof or disproof in court and not even generally accepted outside the courtroom.'" *State v. Whaley*, 305 S.C. 138, 142, 406 S.E.2d 369, 371 (1991) (emphasis added by court) (quoting *State v. Jones*, 273 S.C. 723, 731, 259 S.E.2d 120, 124 (1979)).

"Scientific evidence is admissible under Rule 702, SCRE," when "(1) the evidence will assist the trier of fact; (2) the expert witness is qualified; (3) the underlying science is reliable . . . ; and (4) the probative value of the evidence outweighs its prejudicial effect." *State v. Jones*, 343 S.C. 562, 572, 541 S.E.2d 813, 818 (2001). The trial court must use the following factors to determine the reliability of scientific testimony: "(1) the publications and peer review of the technique; (2) prior application of the method to the type of evidence involved in the case; (3) the quality control procedures used to ensure reliability; and (4) the consistency of the method with recognized scientific laws and procedures." *Graves v. CAS Med. Sys., Inc.*, 401 S.C. 63, 74, 735 S.E.2d 650, 655 (2012) (quoting *State v. Council*, 335 S.C. 1, 19, 515 S.E.2d 508, 517 (1999)). "However, these factors 'serve no useful analytical purpose' for nonscientific evidence. In those cases, we have declined to offer any specific factors for the circuit court to consider due to 'the myriad of Rule 702 qualification and reliability challenges that could arise with respect to nonscientific expert evidence.'" *Id.* at 74-75, 735 S.E.2d at 655-56 (quoting *White*, 382 S.C. at 274, 676 S.E.2d at 688).

"Nevertheless, the court must still exercise its role as gatekeeper and determine whether the proffered evidence is reliable." *Id.* at 75, 735 S.E.2d at 656. "The foundational reliability requirement for expert testimony does not lend itself to a one-size-fits-all approach, for the *Council* factors for scientific evidence serve no useful analytical purpose when evaluating nonscientific expert testimony." *White*, 382 S.C. at 274, 676 S.E.2d at 688 (footnote omitted). Our supreme court "ha[s] declined to set a general test for nonscientific testimony due to the multitude of challenges [that] may arise. Thus, this evidence must be evaluated on an ad hoc basis." *Graves*, 401 S.C. at 75, 735 S.E.2d at 656 (looking at other jurisdictions' decisions when assessing the reliability of testimony based on a particular method that had not previously been assessed in South Carolina). In cases involving nonscientific expert testimony, the supreme court has not required a greater foundation or applied the *Jones* test. *Whaley*, 305 S.C. at 142, 406 S.E.2d at 372.

Although South Carolina has not discussed the expertise required to testify about the yield of methamphetamine from pseudoephedrine, others jurisdictions have. The Appellate Court of Illinois has held: "Differences in methamphetamine yield simply do not involve novel science; they involve personal applications of well[-]known and commonly accepted scientific procedures." *People v. Wilke*, 854 N.E.2d 275, 282 (Ill. App. Ct. 2006). That court also explained: "It is undisputed in the scientific community that chemical processes exist whereby pseudoephedrine can be converted into methamphetamine. Not even defendant contests this fact. Given such acceptance of the underlying method, a *Frye*¹³

¹³ *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), provided the standard in federal cases for admitting scientific evidence until the Federal Rules of Evidence superseded it. *See State v. Dinkins*, 319 S.C. 415, 418 n.3, 462 S.E.2d 59, 60 n.3 (1995) ("[T]he United States Supreme Court recently held the adoption of the Federal Rules of Evidence superseded the *Frye* test."); *see also Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993) ("That the *Frye* test was displaced by the Rules of Evidence does not mean, however, that the Rules themselves place no limits on the admissibility of purportedly scientific evidence. Nor is the trial judge disabled from screening such evidence. To the contrary, under the Rules the trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable. The primary locus of this obligation is Rule 702, which clearly contemplates some degree of regulation of the subjects and theories about which an expert may testify." (footnote omitted)).

hearing is not required in the instant case." *Id.* at 281. The court found the defendant was "mistak[ing] a credibility issue for an admissibility issue." *Id.* at 282. In another case, that court determined trial counsel did not err in failing to challenge under the *Frye* test the admissibility of the method of calculating methamphetamine weight from pseudoephedrine noting, "Defendant's own expert testified that the procedures to produce methamphetamine 'are very similar to other chemical procedures. There is nothing unique about them. This is simple chemistry.'" *People v. Dorsey*, 839 N.E.2d 1104, 1109 (Ill. App. Ct. 2005). In *Wilke*, the Appellate Court of Illinois also noted "[t]he 'science' . . . involves the chemistry behind converting pseudoephedrine to methamphetamine. . . . Any arguments about defendant's particular ability to apply the chemistry . . . raise an issue of evidentiary weight." 854 N.E.2d at 281. The court concluded, "Arguments about different yields stemming from different laboratory conditions are simply misplaced in this context. Defendant is certainly entitled to raise such matters, but the appropriate time for doing so is during cross-examination of the State's expert (or direct examination of a defense expert) . . ." *Id.* at 282. A concurrence by a judge on the Appellate Court of Illinois has also examined the conversion formula: "[I]t is abundantly clear that a formula exists for the conversion of precursor material into a quantity of methamphetamine. That formula is commonly accepted by the scientific community and, in essence, is

"Rule 702 of the Federal Rules of Evidence is identical to Rule 702 of the South Carolina Rules of Evidence . . ." *In re Robert R.*, 340 S.C. 242, 246, 531 S.E.2d 301, 303 (Ct. App. 2000). "Although our supreme court in *Council* declined to adopt the [federal] *Daubert* standard, instead selecting an approach based on both the South Carolina Rules of Evidence and prior South Carolina case law, at least one observer has noted that the two standards are 'very similar.'" *Id.* at 247 n.3, 531 S.E.2d at 303 n.3 (quoting G. Ross Anderson, Jr., *Evidence Eggshells—A New Walk for Experts*, *The Bulletin*, Fall 1999, at 7, 9). "While many of *Jones*'s progeny borrow principles from *Daubert*'s predecessor, . . . our courts never adopted the *Frye* standard completely in favor of *Jones*'s more liberal approach." *State v. Morgan*, 326 S.C. 503, 509 n.2, 485 S.E.2d 112, 115 n.2 (Ct. App. 1997) (citing *State v. Ford*, 301 S.C. 485, 488, 392 S.E.2d 781, 783 (1990) ("South Carolina, however, has never specifically adopted the *Frye* test and has employed a *less restrictive* standard in regard to the admissibility of scientific evidence." (emphasis added))), *overruled by White*, 382 S.C. at 273, 676 S.E.2d at 688 ("We overrule *Morgan* to the extent it suggests that only scientific expert testimony must pass a threshold reliability determination by the trial court prior to its admission in evidence.").

operable by the application of mathematics." *Dorsey*, 839 N.E.2d at 1110 (Appleton, J., concurring).

In a case from the Court of Appeals of Indiana involving a methamphetamine conviction, a judge concurred "to address the issues with determining generally the amount of methamphetamine that is involved in the manufacturing in a particular case." *Harmon v. State*, 971 N.E.2d 674, 683 (Ind. Ct. App. 2012) (Vaidik, J., concurring). The judge noted one method "to determine the actual weight of the methamphetamine produced" is to "us[e] a conversion ratio based on the amount of . . . pseudoephedrine that is present." *Id.* The judge found that method to be a "more appropriate method," explaining: "This method uses a scientifically determined formula to calculate how much methamphetamine would be produced based on the amount of . . . pseudoephedrine that is used in manufacturing. Using a conversion ratio allows for a reliable measure of the weight of the drug that will be produced" *Id.* at 684. The judge observed: "Other jurisdictions around the country have adopted this method, and expert witnesses are employed to apply the conversion ratio due to its case-by-case variability." *Id.*

It is essential that an expert witness be present at trial to testify to the conversion ratio and how it applies in each case. . . . [A] conversion ratio between . . . pseudoephedrine to methamphetamine can be used, but it can change "depending on the cooking process, on whether pill binders are stripped from the . . . pseudoephedrine, and on the person who is 'cooking' the methamphetamine." With so many ingredients involved in the manufacturing of methamphetamine and so many different factors that can alter how those ingredients affect the yield, determining yield is not a task that should be undertaken by a lay person. When the difference of such a small amount can have such a profound effect on a potential sentence, the trial court needs to be sure that the yield is accurate.

Harmon, 971 N.E.2d at 685 (quoting *Halferty v. State*, 930 N.E.2d 1149, 1153 (Ind. Ct. App. 2010)).

The Indiana Supreme Court has "reject[ed] a one-size-fits-all method of showing final yield because manufacturing techniques and ingredients vary from lab to lab, and the form in which law enforcement officers discover an intermediate product

may not allow for uniform scientific analysis." *Buelna v. State*, 20 N.E.3d 137, 147 (Ind. 2014). That court found an acceptable method to show the weight of the final yield was to use a conversion ratio based on the amount of pseudoephedrine used by the manufacturer as "long as the State can also establish that a defendant used a sufficient amount of precursors to successfully convert . . . pseudoephedrine into methamphetamine[] and had the capability and skill to do so." *Id.*

A concurrence in one of the cases from the Appellate Court of Illinois noted, "The only variables in the formula are the skill of the 'cookers,' the equipment used by them, and the location of the production." *Dorsey*, 839 N.E.2d at 1110 (Appleton, J., concurring). That judge explained, "It is these variables that produce the plethora of different conversion ratios of raw material to product—ranging from .92 to .40—seen by this court as well as other state and federal courts throughout the country." *Id.*

In the present case, Captain Brooks testified he had attended a "clandestine meth lab training school." He stated he was "certified through the [Drug Enforcement Agency (DEA)] as what they call a site safety officer at labs sites and also clandestine lab certified." Captain Brooks provided he had been involved in thousands of methamphetamine investigations, as well as "[h]igh level trafficking conspiracies surrounded by methamphetamine." He noted he had "been involved in the seizure of probably close to 200 methamphetamine labs." He also indicated he had manufactured methamphetamine in a controlled setting. Captain Brooks described "[i]n the clandestine lab training, [he] went to the [South Carolina Law Enforcement Division (SLED)] lab and manufactured methamphetamines from start to finish the lab, in the controlled setting." He indicated he had been trained about the various methods with which one can make the methamphetamine. He also provided he was trained how to determine the yield of methamphetamine from the amount of precursor elements. He explained, "It's, basically, a mathematical equation. By taking the grams of [p]seudoephedrine that are introduced into the lab"

The trial court did not abuse its discretion in qualifying Captain Brooks as an expert and allowing him to testify as to the possible yield of methamphetamine from the pseudoephedrine available. Captain Brooks had more knowledge about manufacturing methamphetamine and calculating methamphetamine yield than the jury would have as common knowledge, and his testimony assisted the jury in understanding how methamphetamine labs operate—this is all that Rule 702 requires. Meador argued that from "research on the [i]nternet," the experts disagreed on the actual conversion measurements but did not provide any sources.

He argued the "yield is [a]ffected by the way [it is] cooked, by who cooks it, by what's done with it." He contended "it would be completely inappropriate to expect a police officer who is trained in investigative techniques regarding this with no more than a high school education in chemistry as an expert." However, Captain Brooks explained those factors are what caused a range of yields instead of a specific percentage that would be the yield in any situation. Captain Brooks did not develop the calculation; he simply utilized it as he was trained. As numerous courts have held, this is a widely accepted calculation. Accordingly, the trial court did not abuse its discretion in qualifying Captain Brooks as an expert due to his training and experience and allowing him to testify as to the theoretical yield.

III. Directed Verdict

Mealor maintains the trial court erred in denying his motion for a directed verdict because the State did not present direct or substantial circumstantial evidence of his guilt. We disagree.

"When ruling on a motion for a directed verdict, the trial court is concerned with the existence or nonexistence of evidence, not its weight." *State v. Weston*, 367 S.C. 279, 292, 625 S.E.2d 641, 648 (2006). When reviewing a trial court's denial of a defendant's motion for a directed verdict, an appellate court must view the evidence in the light most favorable to the State. *State v. Venters*, 300 S.C. 260, 264, 387 S.E.2d 270, 272 (1990). Additionally, an appellate court must find a case was properly submitted to the jury "if any direct evidence or any substantial circumstantial evidence reasonably tends to prove the guilt of the accused." *Weston*, 367 S.C. at 292-93, 625 S.E.2d at 648. The trial court should submit a case "to the jury when the evidence is circumstantial 'if there is any substantial evidence [that] reasonably tends to prove the guilt of the accused or from which his guilt may be fairly and logically deduced.'" *State v. Bostick*, 392 S.C. 134, 139, 708 S.E.2d 774, 776 (2011) (quoting *State v. Mitchell*, 341 S.C. 406, 409, 535 S.E.2d 126, 127 (2000)). "[T]he trial court should grant a [defendant's] directed verdict motion when the evidence presented merely raises a suspicion of guilt." *Id.* at 142, 708 S.E.2d at 778. "Circumstantial evidence . . . gains its strength from its combination with other evidence, and all the circumstantial evidence presented in a case must be considered together to determine whether it is sufficient to submit to the jury." *State v. Rogers*, 405 S.C. 554, 567, 748 S.E.2d 265, 272 (Ct. App. 2013). "[W]hen the State relies exclusively on circumstantial evidence and a motion for a directed verdict is made, the trial [court] is concerned with the existence or non-existence of evidence, not with its weight." *State v. Pearson*, 415 S.C. 463, 469, 783 S.E.2d 802, 805 (2016).

"[T]he lens through which a court considers circumstantial evidence when ruling on a directed verdict motion is distinct from the analysis performed by the jury." *State v. Bennett*, 415 S.C. 232, 236, 781 S.E.2d 352, 354 (2016). During the *jury's* review, "every circumstance relied upon by the [S]tate [must] be proven beyond a reasonable doubt[] and . . . all of the circumstances so proven [must] be consistent with each other and, taken together, point conclusively to the guilt of the accused to the exclusion of every other reasonable hypothesis." *Id.* (quoting *State v. Littlejohn*, 228 S.C. 324, 328, 89 S.E.2d 924, 926 (1955)). During the consideration of a directed verdict motion, the *trial court* must view the evidence in the light most favorable to the State and submit the case to the jury if any substantial evidence "reasonably tends to prove the guilt of the accused" or if any substantial evidence exists "from which his guilt may be fairly and logically deduced." *Id.* at 236-37, 781 S.E.2d at 354 (emphasis added) (quoting *Littlejohn*, 228 S.C. at 329, 89 S.E.2d at 926). "Therefore, although the *jury* must consider alternative hypotheses, the *court* must concern itself solely with the existence or non-existence of evidence from which a jury could reasonably infer guilt. This objective test is founded upon reasonableness." *Id.* at 237, 781 S.E.2d at 354. "Accordingly, in ruling on a directed verdict motion whe[n] the State relies on circumstantial evidence, the court must determine whether the evidence presented is sufficient to allow a reasonable juror to find the defendant guilty beyond a reasonable doubt." *Id.*

Section 44-53-375(C) of the South Carolina Code (2018) provides:

A person who knowingly sells, manufactures, delivers, [or] purchases, . . . or who provides financial assistance or otherwise aids, abets, attempts, or conspires to sell, manufacture, deliver, [or] purchase, . . . or who is knowingly in actual or constructive possession or who knowingly attempts to become in actual or constructive possession of ten grams or more of methamphetamine . . . is guilty of a felony which is known as "trafficking in methamphetamine"

The appropriate sentence upon conviction varies according to the range of grams of the substance. In this case, the State ultimately asserted Mealor manufactured or

attempted to manufacture "twenty-eight grams or more, but less than one hundred grams." § 44-53-375(C)(2).¹⁴

Our supreme court has recently discussed whether testimony regarding the theoretical maximum yield of methamphetamine from pseudoephedrine provides sufficient evidence of quantity to survive a motion for a directed verdict. *See State v. Cain*, 419 S.C. 24, 795 S.E.2d 846 (2017). In that case, the supreme court reversed the trial court's denial of the defendant's motion for a directed verdict. *Id.* at 37, 795 S.E.2d at 853. Law enforcement had not found methamphetamine but had found evidence of ingredients used to manufacture methamphetamine, including empty packages that once contained 19.2 grams of pseudoephedrine. *Id.* at 27, 795 S.E.2d at 848. The defendant was tried for trafficking ten grams or more of methamphetamine. *Id.* On appeal, the defendant argued the expert's "testimony is insufficient because it proves only the theoretical quantity of drugs a person could have produced at maximum efficiency; it does not prove the quantity [the defendant] could realistically have intended to manufacture." *Id.* at 28-29, 795 S.E.2d at 848. The defendant further maintained "[w]ithout evidence showing [he] could actually have produced ten grams or more of methamphetamine with the equipment and ingredients he had at his disposal, . . . the trial court erred in denying his motion for directed verdict." *Id.* at 29, 795 S.E.2d at 848-49.

In *Cain*, the expert "described the equipment and ingredients found at the scene, and how [the defendant] would have used them in the 'one pot'¹⁵ method of manufacturing methamphetamine. . . . [The expert] testified [the defendant]'s method did not take place under laboratory conditions, and admitted that calling his operation a 'meth lab' was a 'misuse of the word lab.'" *Id.* at 29, 795 S.E.2d at 849. The State questioned the expert on the quantity of methamphetamine the method utilized by the defendant could produce, specifically how much methamphetamine the amount of pseudoephedrine would produce with various yields starting at a 100% yield, which was under ideal laboratory conditions, and decreasing to a 65% yield, which would produce 11.48 grams. *Id.* at 29-30, 795

¹⁴ The trial court denied the motion for a directed verdict on trafficking under one hundred grams but initially took under advisement trafficking over one hundred grams. Later, after the defendants renewed their motions, the State requested to amend the indictment to between twenty-eight and one hundred grams, given the evidence presented, which the trial court granted.

¹⁵ Captain Brooks testified shake and bake and one pot are the same method. He also indicated the other two most common methods are red phosphorous or "red fee" and the birch or "Nazi" method.

S.E.2d at 849. The supreme court found "[t]his testimony was the only evidence the State offered as to the quantity involved in [the defendant]'s alleged trafficking in methamphetamine." *Id.* at 30, 795 S.E.2d at 849.

The supreme court determined:

[The expert]'s testimony proves it was theoretically possible to manufacture 17.67 grams of methamphetamine from 19.2 grams of pseudoephedrine if the process was conducted at one hundred percent efficiency. However, [the expert] specifically acknowledged the quantity of 17.67 grams was calculated on the assumptions of "ideal laboratory conditions" with "pure products" used by a "trained chemist." [The expert] admitted [the defendant] did not have ideal laboratory conditions, and the State offered no evidence [the defendant] even knew how to manufacture methamphetamine. There is no other evidence in the record to support the validity of [the expert]'s assumptions. [The expert]'s testimony also proves the quantity of methamphetamine [the defendant] could have manufactured at various lower levels of efficiency. However, [the expert]'s testimony provides no basis for calculating the level of efficiency [the defendant] could actually have reached under the circumstances that existed in the house. In fact, [the defendant]'s counsel specifically asked [the expert] on cross[-]examination, "There's no way to tell, from what you had there, how much [the defendants] were actually getting from their work?" [The expert] replied, "No, sir."

Id. at 31, 795 S.E.2d at 850.

In deciding *Cain*, the supreme court examined an Eighth Circuit Court of Appeals case, *United States v. Eide*, 297 F.3d 701 (8th Cir. 2002). *Cain*, 419 S.C. at 31-33, 795 S.E.2d at 850-51. The *Cain* court noted, "In *Eide*, after rejecting the government's evidence of theoretical maximum yield, the Eighth Circuit focused on the expert's explanation of 'the particular methamphetamine manufacturing processes' the defendant used, and her testimony 'that his lithium ammonia reduction process was capable of producing a 40 to 50 percent yield.'" *Cain*, 419

S.C. at 32, 795 S.E.2d at 850-51 (quoting *Eide*, 297 F.3d at 705). The *Eide* court stated, "This yield would have resulted in producing 10.1 to 12.6 grams of actual methamphetamine." *Cain*, 419 S.C. at 32, 795 S.E.2d at 851 (quoting *Eide*, 297 F.3d at 704). The *Eide* court affirmed the conviction finding, "The particularized nature of [the expert]'s testimony, combined with additional evidence suggesting that [the defendant] was experienced in the manufacture of methamphetamine, were sufficient for a jury to find beyond a reasonable doubt that [the defendant] was a good cook capable of producing a 40 to 50 percent yield." *Cain*, 419 S.C. at 32-33, 795 S.E.2d at 851 (quoting *Eide*, 297 F.3d at 705). However, the *Cain* court distinguished *Eide* determining, "Unlike the expert testimony in *Eide*, [the expert]'s testimony provided the jury no basis on which to determine how much methamphetamine [the defendant] could actually have produced." *Cain*, 419 S.C. at 33, 795 S.E.2d at 851. The court found, "If [the defendant] were a 'good cook' like [the defendant in *Eide*], 'capable of producing a . . . 50 percent yield,' he would have manufactured 8.83 grams of methamphetamine, and thus, he could not be guilty of trafficking." *Cain*, 419 S.C. at 33, 795 S.E.2d at 851.

In *Eide*, the Eighth Circuit explained, "Estimating the amount a clandestine lab is capable of manufacturing may be determined from the quantity of the precursor chemicals seized together with expert testimony about their conversion to methamphetamine." 297 F.3d at 705. "Quantity yield figures should not be calculated without regard for the particular capabilities of a defendant and the drug manufacturing site." *Id.*

The Eighth Circuit further noted:

The jury also heard testimony from police, [Division of Narcotics Enforcement (DNE)] officers, and [the defendant]'s family members indicating that he was heavily involved in the manufacture of methamphetamine. Police and DNE officers testified to the large amount of evidence gathered at [the defendant]'s residence that was consistent with the production of methamphetamine manufacturing, including cans of engine starting fluid, muriatic acid, liquid propane tanks, lithium camera batteries, crushed pseudoephedrine, rags smelling of anhydrous ammonia, scales, plastic baggies, and the sludge-like substance containing trace amounts of methamphetamine. The jury heard [the defendant]'s half[-]sister testify about

suspicious objects she had seen in his lab, including a couple of bags of white powder, coffee filters[,] and the apple juice jar, and [the defendant]'s former wife testified that she had smelled chemicals coming from the basement and had seen coffee filters and a blender with white powder.

Id. at 705-06.

Ultimately, the *Eide* court determined the prosecution presented sufficient evidence the defendant had attempted to manufacture five or more grams of methamphetamine, noting, "The combined effect of [the expert]'s particularized testimony and the strong and detailed circumstantial evidence linking [the defendant] to the manufacture of methamphetamine were enough for the jury to conclude that [the expert]'s calculations were an accurate estimate of [the defendant]'s manufacturing capabilities." *Id.* at 706.

"Congress responded to growing concerns about a 'methamphetamine epidemic in America,' *United States v. Layne*, 324 F.3d 464, 468 (6th Cir. 2003) (quoting H.R. Rep. 106-878, at 22 (Sept. 21, 2000)), by" replacing "the individualized determination of how much of a controlled substance certain chemicals would yield" for sentencing in federal methamphetamine cases, with conversion ratios for "the quantity of controlled substance that could reasonably have been manufactured . . . determined by using a table of manufacturing conversion ratios for . . . pseudoephedrine, *which table shall be established by the Sentencing Commission based on scientific, law enforcement, and other data the Sentencing Commission considers appropriate.*" Pub. L. No. 106-310, § 3651(b), 114 Stat. 1238-39 (2000)." *United States v. Martin*, 438 F.3d 621, 624-25 (6th Cir. 2006) (emphasis added by court). "These tables adopt a 50% conversion ratio for pseudoephedrine, such that [two] grams of the chemical is equivalent to [one] gram of methamphetamine." *Id.* at 625. "In adopting the 50% conversion ratio for pseudoephedrine, the Commission relied on a report promulgated by the DEA's Office of Diversion Control that was published on the website of the Office of National Drug Control Policy (ONDCP)." *Id.* "That report 'indicate[d] that the actual yield of methamphetamine from . . . pseudoephedrine is typically in the range of 50 to 75[%].'" *Id.* (alteration by court) (quoting Proposed Amendments to the Sentencing Guidelines, 66 Fed. Reg. 7962, 7965 (Jan. 26, 2001)) (citing U.S. Sentencing Guidelines, App. C, Amendment 611 ("This yield is based on information provided by the [DEA] that the typical yield of these substances for clandestine laboratories is 50 to 75[%].")); *see also United States v. Stacy*, 769

F.3d 969, 977 (7th Cir. 2014) (holding that although the defendant argued "the 50% ratio [w]as meant to 'approximate the amount of pure methamphetamine that a high-grade laboratory could produce[,] . . . the Commission based its ratio on a report from the [DEA] about the typical yield rate *in clandestine laboratories*").

In a Seventh Circuit case, "[t]he experts . . . testified that although an 80-85% yield *might* be possible with a clandestine laboratory, yields in the range of 40%-60% were *more probable*. This data is confirmed by the Iowa study, which [the defendant] introduced at sentencing." *United States v. Eschman*, 227 F.3d 886, 890 (7th Cir. 2000). In another case from the Appellate Court of Illinois, a police officer qualified as an expert in the manufacturing of methamphetamine "stated some jurisdictions use an 80% to 90% yield rate, but his office arrived at a 60% yield because 'it was the most lenient[,] giving the most margin for error and the most leniency towards the suspect.'" *People v. Reatherford*, 802 N.E.2d 340, 346-47 (Ill. App. Ct. 2003) (alteration by court).

In *Martin*, the defendant argued "expert testimony in reported federal court opinions and by DEA personnel before Congress conflicts with the Commission's choice of 50% as the appropriate conversion ratio for pseudoephedrine." *Id.* at 636. The *Martin* court noted "the sources that [the defendant] cites reveal that, although yield rates are at times as low as 15%, they can also be as high as 85%." *Id.* The court determined "[t]hese sources—among them the so-called 'Iowa Study' and expert testimony by a DEA chemist in *Eschman*, 227 F.3d at 889—therefore reflect a 'difference of opinion in the scientific community' as to yield rates." *Martin*, 438 F.3d at 636. The court held, "A yield rate of 50%, moreover, is not just a reasonable middle ground between two extremes, but is also borne out by cases predating the Act—cases in which this court endorsed the 50% rate as a valid approximation." *Id.*

In a Court of Appeals of Indiana case, the court found the State had not presented sufficient evidence the defendant had manufactured three grams of methamphetamine. *Halferty*, 930 N.E.2d at 1153. In that case, an officer "testified that '*in general*,' the conversion ratio between . . . pseudoephedrine to methamphetamine was '*usually* right around 70, 80[%]'" *Id.* "When questioned about the term '*usually*,' [the officer] testified that the ratio can change depending on the cooking process, on whether pill binders are stripped from the . . . pseudoephedrine, and on the person who is '*cooking*' the methamphetamine." *Id.* The officer also acknowledged "depending on the cook, the ratio of . . . pseudoephedrine to methamphetamine can '*fall below* 50[%]'" *Id.* The court noted "[c]ooking the [amount] of . . . pseudoephedrine at a yield of fifty percent

would create . . . an amount . . . less than three grams. [The officer] also testified that the conversion ratio was 'in general,' 'usually,' or 'about' seventy to eighty percent." *Id.* at 1154. The court determined, "The use of these terms does not constitute proof beyond a reasonable doubt. Without the proof of three grams, a conviction for Class A felony dealing in methamphetamine cannot stand." *Id.*

Another Court of Appeals of Indiana case similarly found "the use of the term 'could' b[y] a testifying police officer is, in and of itself, not proof beyond a reasonable doubt that [the defendant] manufactured three or more grams of meth." *Fancil v. State*, 966 N.E.2d 700, 707 (Ind. Ct. App. 2012). The court noted "the State argue[d] that this case is distinguishable from *Halferty* because [it] presented evidence that [the defendant] ha[d] the skill and experience to produce an efficient conversion yield." *Id.* Additionally, "[t]he State contend[ed] that [the defendant] only had to achieve a conversion ratio of twenty percent, not the fifty percent considered in *Halferty*, 930 N.E.2d at 1154, in order to produce three grams of meth from fifteen grams of pseudoephedrine." *Id.* The court disagreed with the State's arguments, finding "[a]lthough the State did present evidence that [the defendant] had been manufacturing meth for a number of months and possessed a degree of skill, [the officer's] testimony did not address a specific conversion ratio for [the defendant] in light of his capability and the materials present at his residence." *Id.* (citation omitted). "Moreover, although [the defendant] only needed to be able to convert at a rate of twenty percent to produce the three grams, the State cannot rely on the low conversion ratio from *Halferty* that was not in evidence in this case." *Id.*

In the present case, unlike *Cain* in which the State presented no testimony by anyone that the defendants had actually produced methamphetamine, the State presented multiple witnesses who testified Greenfield and Mealor provided them with methamphetamine they had produced. Rooney testified he observed activities related to the manufacturing of methamphetamine at the residence. He indicated he recognized the smell of making methamphetamine. He provided he saw Greenfield and Mealor shaking plastic drink bottles. He testified he saw Greenfield and Mealor making methamphetamine there "[q]uite a few" times. He also observed big containers of Coleman fuel, which they used in the manufacturing. He also saw cut open batteries. He testified he saw Greenfield and Mealor making methamphetamine in their bedroom. Miller testified he did not see them make methamphetamine but they told them they would be making it when he gave them the pseudoephedrine. Several witnesses testified they gave Mealor pseudoephedrine in exchange for methamphetamine. Amanda testified Mealor and

Greenfield would give her money to purchase pseudoephedrine for them, and she would keep the change.

Captain Brooks testified 40 to 50% is the lowest yield percentage of methamphetamine one could possibly get from pseudoephedrine. He indicated that was the worst case scenario. He testified sulfuric acid (drain cleaner), coffee filters, funnels, bottles, Xylene, ether, starter fluid, cut batteries, medication blister packs, and burn piles are all things normally observed at a lab. Several witnesses placed these things at the house in question.

The trial court did not err in denying the motion for a directed verdict. Viewing the facts in the light most favorable to the State, the State presented evidence from which the jury could find Mealor manufactured or attempted to manufacture over twenty-eight grams of methamphetamine. Many witnesses testified Mealor and Greenfield gave them methamphetamine in return for pseudoephedrine. Accordingly, the records contain evidence they were able to actually produce methamphetamine. Further, witnesses also testified one of the reasons Mealor and Greenfield started manufacturing methamphetamine was because they believed they could produce it at a lesser cost than buying it. Captain Brooks testified the worst case scenario yield was 40%. Applying a 40% yield to the amount of pseudoephedrine Mealor and Greenfield were given, according to the testimony the State presented, the amount of grams of methamphetamine would be over twenty-eight grams. Several witnesses testified Mealor or Greenfield would give them methamphetamine in the amount of \$20 or \$40 at a time.¹⁶ While Captain Brooks's testimony indicates a person attempting to make methamphetamine could end up with no methamphetamine due to flash fire, that person would still have been attempting to produce some amount of methamphetamine. Here, many witnesses testified that Mealor and Greenfield gave them methamphetamine after they had made it, demonstrating they were successful. Although we do not have specific testimony that Greenfield or Mealor was a "good cook," we do have testimony they successfully produced methamphetamine. Accordingly, the trial court did not err in denying the directed verdict motion.

CONCLUSION

¹⁶ "In the case of methamphetamine, an individual user can purchase the drug in quantities as small as one gram." *State v. Bramme*, 64 P.3d 60, 64 (Wash. Ct. App. 2003). A detective "testified that the smallest unit of methamphetamine sold is one gram. Most users buy 1.8 grams—a 'teener'—or two teeners for personal use." *State v. Zunker*, 48 P.3d 344, 347 (Wash. Ct. App. 2002).

The trial court did not abuse its discretion in admitting into evidence the NPLeX logs or Captain Brooks's testimony on the theoretical yield. Further, the trial court did not err in denying Mealor's motion for a directed verdict. Accordingly, the trial court is

AFFIRMED.

LOCKEMY, C.J., and WILLIAMS, J., concurs.