VOLUME THREE OF THREE

THE STATE OF SOUTH CAROLINA
In the Supreme Court of South Carolina

APPEAL FROM PICKENS COUNTY
Court of General Sessions

Robin B. Stilwell, Circuit Court Judge

Case No. 2019-000475

THE STATE,

Respondent,

v.

MICHAEL LEVANT MEALOR,

Petitioner.

APPENDIX

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> 13. Capt. Brooks testified pseudoephedrine, ether, Coleman fuel and lithium (from cut open batteries) are used in the shake and bake method of making methamphetamine; plastic bottles are used rather than glass bottles because the plastic expands more the person can feel when the pressure builds, and they are less likely to explode so they are generally safer; methamphetamine manufacturers use other people to purchase pseudoephedrine for them in order to avoid the legal limitations (smurfing); based on his training and experience, the yield rates of pseudoephedrine to methamphetamine are from 40% to 92%; bottles used in the shake and bake method are easy to clean or discard so they are very portable for use as a methamphetamine lab; and the manufacturing process creates a very strong ammonia smell (TT, pp. 439-462; R., pp. 432-455).

Thus, there was both direct and substantial circumstantial evidence Appellant and Greenfield manufactured methamphetamine from pseudoephedrine they personally purchased and/or received from the co-defendants in 2011.

Capt. Brooks testified the generally accepted yield rates range from 40% to 92% pseudoephedrine to methamphetamine. As discussed above in Issue II, the federal courts use a 50% yield rate to calculate the appropriate base offense level for sentencing purposes in manufacturing methamphetamine cases, which was based on data compiled by the DEA, and is well within the range given by Capt. Brooks. Even expert disagreements about yield rates do not make Capt. Brooks' testimony mere speculation. *See* Martin, 438 F.3d at 636 (differences of opinion in the scientific community about yield rates did not render the 50% yield rate adopted by the Sentencing Commission arbitrary and capricious).

The evidence, including NPLEX records and testimony, revealed Appellant personally received and/or purchased 234 grams of pseudoephedrine in 2011.[6] The following chart indicates the theoretical yield of methamphetamine from that amount of pseudoephedrine, using yield rates ranging from 40% to 90%:

[6]Appellant contends the totals were speculative because some co-defendants used the pseudoephedrine for medicinal purposes; however, the State only attributed to Appellant the amounts each co-defendant testified they gave to him.

Pseud.	40%	50%	60%	70%	80%	90%
234	93.6	117	140.4	163.8	187.8	210.6

Assuming for argument purposes the pseudoephedrine Appellant personally purchased (69.36 grams) was used for medicinal purposes, the following chart shows the theoretical yield of methamphetamine just from the pseudoephedrine Appellant himself received from the co-defendants:

Pseud.	40%	50%	60%	70%	80%	90%
164.64	65.856	82.32	98.784	115.248	131.712	148.176

Under either scenario, the **minimum** methamphetamine yield using a 40% to 50% yield far exceeded 28 grams.[7]

Appellant's contention a directed verdict was warranted because law enforcement did not find or seize a methamphetamine lab, or a large stash of pseudoephedrine, from Appellant is unavailing. As set forth above, there was direct testimony Appellant and Greenfield manufactured methamphetamine in their home. Some co-defendants actually saw them manufacturing methamphetamine, and/or saw items commonly associated with manufacturing methamphetamine (plastic bottles, cut open lithium batteries and Coleman fuel) inside their home, and some co-defendants detected a strong ammonia-like odor in the home.

Further, the evidence established Appellant and Greenfield found out in November 2011 they were being investigated, but they were not arrested until June 2012. As Captain Brooks testified, methamphetamine labs, particularly the shake and bake/one pot version, are very portal and easily discarded. (TT, pp. 450-451, 464-483; R., pp. 443-444, 457-476). Therefore, it is reasonably inferable Appellant and Greenfield were much more careful after November 2011,

[7]Even if Appellant was a terrible methamphetamine cook and only achieved a 20% yield, the amounts would still exceed 28 grams (46.8 grams & 32.92 grams).

and either promptly discarded any evidence of methamphetamine manufacturing in their home, or found another location altogether.

Appellant's reliance on the recent case of State v. Cain, 419 S.C. 24, 796 S.E.2d 846 (2017), is misplaced because the instant case is readily distinguishable. In Cain, police officers serving a bench warrant found equipment used to manufacture methamphetamine, and a forensic chemist found empty packages of Sudafed, which she determined had contained 19.2 grams of pseudoephedrine. The chemist testified at trial that amount of pseudoephedrine "could theoretically produce 17.67 grams of methamphetamine, if Cain manufactured the methamphetamine with maximum efficiency." The chemist's testimony was the only evidence regarding the quantity of methamphetamine the defendant produced for purposes of the trafficking charge. *Id.* at 847-849.

The Supreme Court reversed the trafficking conviction, finding the chemist's testimony regarding the quantity of drugs assumed the process used was 100% efficient, and there was **no** evidence the defendant "even knew how to manufacture methamphetamine." *Id.* at 850. The Court compared the evidence presented in Cain to the evidence of quantity the Eighth Circuit Court of Appeals found sufficient in United States v. Eide, 297 F.3d 701 (8th Cir. 2002), and concluded the State's evidence "provided the jury no basis on which to determine how much methamphetamine Cain could actually have produced." *Id.* at 851.

The evidence in this case is comparable to the evidence presented in Eide, and favorably cited in Cain. The expert in Eide testified about the particular manufacturing process the defendant used, and stated his method was capable of producing a 40% to 50% yield. The Eight Circuit found the nature of the expert's testimony, combined with evidence suggesting the

defendant was experienced in manufacturing methamphetamine, was sufficient for the jury to find the defendant was a good cook capable of producing a 40% to 50% yield. 297 F.3d at 705.

As set forth above, the co-defendants' testimony provided ample evidence from which the jury could find beyond a reasonable doubt Appellant and Greenfield were experienced in manufacturing methamphetamine using the shake and bake/one pot method. They routinely used methamphetamine they produced to pay co-defendants who purchased pseudoephedrine for them, and co-defendants actually saw them manufacturing methamphetamine, and/or saw the ingredients used in the manufacturing process in their home.

Further, Appellant's and Greenfield's own statements indicated they were "good" cooks. Greenfield told Kelley McCall she and Appellant could make methamphetamine "cheaper" and "cleaner" than what was available on the street. Appellant and Greenfield also told Angela Armstrong they could make methamphetamine "better" and "cheaper," and Melissa Wardlaw heard them talking about manufacturing methamphetamine and how to do it.

Captain Brooks testified in detail about the shake and bake/one pot manufacturing process, including the chemical process involved, and the equipment and ingredients required. Like the expert in Eide, he stated the lowest yield from that manufacturing process was 40% to 50%. His detailed testimony, combined with the co-defendants' testimony, provided sufficient evidence Appellant and Greenfield were experienced at manufacturing methamphetamine, and capable of producing at least a 40% yield of methamphetamine from the pseudoephedrine they purchased and/or received between January and December 2011.

There was ample direct and circumstantial evidence from which the jury could find beyond a reasonable doubt Appellant conspired with others and manufactured in excess of

twenty-eight grams methamphetamine in 2011. Therefore, the circuit court properly submitted the case to the jury, and its ruling should be affirmed.

CONCLUSION

Based on the foregoing, Respondent submits Appellant's conviction and sentence should be affirmed.

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August 14, 2017

STATE OF SOUTH CAROLINA
IN THE COURT OF APPEALS

Appeal From Pickens County
The Honorable Robin B. Stilwell, Circuit Court Judge
Appellate Case No. 2013-002754

THE STATE,

Respondent,

v.

MICHAEL LEVANT MEALOR,

Appellant.

CERTIFICATE OF COUNSEL

The undersigned certifies that this Final Brief of Respondent complies with Rule 211(b), SCACR, and the April 15, 2014, order from the South Carolina Supreme Court entitled, Revised Order Concerning Personal Identifying Information and Other Sensitive Information in Appellate Court Filing."

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August 14, 2017

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

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 Greenfield[4] 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.

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[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.

[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 witnesses[6] 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. Rooney stated the process of making methamphetamine has a strong smell and

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[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.

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 an employee of the company that maintains the NPLEX database, who 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 portable and easy to dispose of." He also testified producing methamphetamine

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[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.

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 indicted 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 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 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 permitting the introduction of the NPLEX logs into evidence because (1) they did not meet the business records exception to hearsay; (2) a proper foundation was not laid; and (3) the admission violated Rule 403, SCRE. We find this issue unpreserved.

When an appellant does not object or join in a codefendant's objection at trial, an issue cannot be raised by the appellant on appeal even though the appellant's codefendant objected. *See State v. Nichols*, 325 S.C. 111, 123, 481 S.E.2d 118, 124 (1997). Further, 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. *State v. Haselden*, 353 S.C. 190, 196, 577 S.E.2d 445, 448 (2003); *see also State v. Byram*, 326 S.C. 107, 113, 485 S.E.2d 360, 363 (1997) (finding a defendant may not argue one ground below and another on appeal).

When the State first introduced the NPLEX logs during the records custodian's testimony, Mealor stated "we all three have separate arguments to make." He argued as to the logs' "trustworthiness and reliability" because they "have no date

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[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.

range of purchase" and the date range requested was not shown "on the face of the documents." The trial court overruled the objection. One of Mealor's codefendants argued a proper foundation was not laid for the introduction of the logs, and the trial court overruled that objection. Mealor did not state he was joining that argument. Following the trial court's ruling, the State resumed questioning and again sought to introduce the NPLEX logs into evidence. Mealor objected again, arguing the logs contained other people's purchase history in addition to Mealor's. An off-the-record bench conference was held after which the trial court ruled the logs were admissible as a business record and noted Mealor could point out on cross-examination the records included people other than him. Accordingly, the only two objections to the NPLEX logs Mealor expressed at trial on the record were (1) unreliability due to lack of a date range and (2) a problem with people's records other than his own being included. These are not the same reasons he raises on appeal in support of his argument that the trial court erred in admitting the records into evidence. Therefore, this issue is not preserved for our review on appeal.

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.

"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*[10]

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[10] *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)).

"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

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 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

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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.").

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. Mealor 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).

"[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).[11]

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.*

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[11] 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.

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'[12] 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 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

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[12] 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.

> 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 percent.'" *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 percent.")); *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." 438 F.3d 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 percent.'" *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 percent.'" *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 pseudophedrine." *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.[13] 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

The trial court's admission of the NPLEX logs is unpreserved for review on appeal. Further, the trial court did not err in admitting Captain Brooks's testimony on the theoretical yield and denying Mealor's motion for a directed verdict. Accordingly, the trial court is

AFFIRMED.

LOCKEMY, C.J., and WILLIAMS, J., concur.

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[13] "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 STATE OF SOUTH CAROLINA
In the Court of Appeals

APPEAL FROM PICKENS COUNTY
Court of General Sessions

Robin B. Stilwell, Circuit Court Judge

Case No. 2013-002752

State of South Carolina

Respondent,

v.

Michael Levant Mealor

Appellant.

PETITION FOR REHEARING

Pursuant to Rule 221(a) of the South Carolina Appellate Court Rules, the petitioner respectfully requests rehearing on the following grounds:

I. The Court misapprehended and overlooked the South Carolina Supreme Court's holding in *State v. Cain* when it affirmed the trial court's denial of Appellant's motion for a directed verdict.

This Court respectfully misapprehended and overlooked the precedent set forth in *State v. Cain* when it affirmed the trial court's denial of Appellant's directed verdict motion. In *Cain*, unlike the present case, the defendant was *arrested with actual equipment and ingredients* used to manufacture methamphetamine. 419 S.C. 24, 27, 795 S.E.2d 846, 848 (2017) (emphasis added). At trial, an expert *forensic chemist* testified as to the theoretical yield of methamphetamine from pseudoephedrine. *Id.* (emphasis added). The Supreme Court found the

trial court erred in not granting the directed verdict motion because "the jury [was] in the position of having to speculate as to Cain's efficiency at making methamphetamine, and therefore having to guess at how much of the drug he attempted to manufacture." *Id.* 31, 795 S.E.2d at 850. Additionally, it found that a directed verdict motion was proper because the state offered "no evidentiary basis on which [a] jury could have determined—*without speculating*—the quantity of methamphetamine Cain attempted to manufacture. . . ." *Id.*

When the Court affirmed the denial of Appellant's directed verdict motion, it did not consider that "subsection 44-53-375(C) does not criminalize the theoretical possibility of manufacturing" methamphetamine. *Id.* at 31, 795 S.E.2d at 849-50. While this Court was correct when it noted that multiple witnesses testified Appellant allegedly provided them with methamphetamine, the record is devoid of any specific amount of methamphetamine Appellant allegedly did or attempted to produce. In order to provide a specific amount, the State would have had to offer testimony regarding how much of the ingredients, other than pseudoephedrine, were needed to produce methamphetamine and how much of these ingredients Appellant had at his disposal. Additionally, the State would need to offer expert testimony regarding Appellant's capabilities to establish the level of efficiency in actual methamphetamine production given the ingredients he utilized as well as the conditions of the environment he used in allegedly producing methamphetamine.

The State presented none of this at trial. Instead, it relied upon Captain Brooks' testimony of a theoretical yield, which contained no opinion as to Appellant's specific capabilities. In addition, the State relied upon testimony from co-conspirators, who did not testify as to the specific amounts of methamphetamine allegedly received from Appellant or testify with certainty as to the specific amounts of pseudoephedrine they allegedly gave to Appellant.

Moreover, the record does not indicate any specific amounts of the additional ingredients of methamphetamine the co-conspirators allegedly observed Appellant to be in possession. Without testimony regarding the same, the jury was forced to speculate as to the amount of methamphetamine Appellant allegedly attempted to manufacture.

While the Opinion of this Court distinguishes the facts from *Cain*, it overlooks *Cain*'s ultimate holding, which was that "[b]ecause the State did not establish the *level of efficiency* Cain could have achieved in his attempt to manufacture methamphetamine, the jury was forced to speculate as to whether Cain could have actually produced the requisite quantity." *Id.* at 33, 795 S.E.2d at 851. Here, there is no evidence of Appellant's level of efficiency. The only testimony the State offered was a theoretical yield explanation and co-conspirators' testimony that they received an unspecified amount of methamphetamine from Appellant.

Moreover, this Court's reliance on Captain Brooks' testimony of "40 to 50% is the lowest yield percentage of methamphetamine one could possibly get from pseudoephedrine" is troublesome for a number of reasons. *State v. Mealor*, Op No. 5590, Shearouse's Adv. Sh. # 33 at 28. First, as articulated more fully below, Captain Brooks was without the requisite scientific knowledge to testify as to such. Most importantly, neither Captain Brooks or any of the other State's witnesses offered testimony and evidence as to Appellant's specific capabilities at manufacturing methamphetamine. Moreover, Captain Brooks admitted that there were "a lot of different recipes [for manufacturing methamphetamine] on the internet, I mean, *thousands of them.*" R. p. 447 (emphasis added). However, no testimony of Appellant's alleged methamphetamine recipe was offered at trial. In sum, the evidence offered by the State left the jury to guess what products and the amount of products Appellant allegedly used to manufacture methamphetamine and how proficient of a manufacturer Appellant allegedly was. This is

exactly what the Court in *Cain* wanted to prevent. This Court acknowledges that "we do not have specific testimony that [Appellant] was a 'good cook. . . .'"[1] *Id.* It is axiomatic that if there is no specific testimony of the proficiency level of Appellant in allegedly attempting to manufacture methamphetamine, then the only way a jury could determine a specific quantify regarding the same would be by pure conjecture and speculation. Accordingly, this Court misapprehended and overlooked the Supreme Court's holding in *Cain*.

Lastly, as this Court acknowledges, the State's theory in the present case was one of "attempt." Attempt has been defined by our courts as "an overt act done with the intent to commit a crime but that falls short of completing the crime." *State v. Reid*, 383 S.C. 285, 293, 679 S.E.2d 194, 198 (Ct. App. 2009). Thus, by definition, an attempt either ends in failure in which case it remains an attempt, or it ends in the completion of the act in which case it becomes the completed offense.

To this end, custody of pseudoephedrine or allegedly having some of the ingredients required for methamphetamine production is not evidence of an attempt to manufacture the same—especially given the State's theory that would assume all of the ingredients were all part of one single attempt. Viewing evidence in the light most favorable to the State, nothing supports that the hypothetical amount of pseudoephedrine was ever possessed at a single time as part of a larger plan to create a quantity of methamphetamine in excess of 28 grams. It is undisputed that witnesses testified of different occasions in which they either allegedly gave their pseudoephedrine to Appellant and/or allegedly received methamphetamine from Appellant and/or witnessed methamphetamine production or ingredients of the same. Presumably, it would take all of these different occasions added together to obtain the theoretical yield in order for

[1] It is important to note that the court in *Eide* denoted a "good cook" as "capable of producing a 40 to 50 percent yield." *United States v. Eide*, 297 F.4d 701 (8th Cir. 2002). Appellant contends that if he was not a good cook of methamphetamine, his level of efficiency would fall below the 40 percent yield.

Appellant to have *attempted* to manufacture over 28 grams of methamphetamine. This is troublesome as the State is aggregating each of these different occasions into one single act despite the testimony that Appellant had control of those ingredients at the individual times he allegedly produced methamphetamine. Essentially, because those different occasions as testified by the co-conspirators are all part of the State's one alleged "attempt" to traffic methamphetamine, the State must offer at least some evidence of a nexus between the Appellant and the items that were used in the purported manufacturing. Because the State failed to do this, there can be no inference that Appellant intended to produce the requisite quantity of 28 grams of methamphetamine, and thus the jury was forced to speculate that Appellant attempted to manufacture the same. Consequently, this Court misapprehended and overlooked the law concerning speculative evidence derived from *Cain* when it affirmed the trial court's denial of Appellant's directed verdict.

II. The decision respectfully misapprehended the rules of issue preservation and overlooked the fact that Appellant's argument that the National Precursor Log Exchange (NPLEX) were improperly introduced into evidence was fully and properly preserved.

This Court respectfully misapprehended the rules of issue preservation and overlooked that Appellant's issues regarding whether the NPLEX logs where improperly introduced was properly preserved because Appellant made numerous motions regarding the same at trial. Before the start of the actual trial, the State indicated its intent to enter the NPLEX records under SCRE 803(6), while Appellant's codefendant indicated its intent to object. R. p. 28-29. The court then stated it would likely permit the introduction of the NPLEX records under the business records objection should a proper foundation be laid and also informed Appellant and codefendants specifically that the court will "give [Appellant and codefendants] the opportunity [to respond], but unless y'all tell me otherwise, *I assume that whoever responds is responding*

for everyone. If that's an inappropriate assumption, y'all just let me know, okay." R. p. 29 (emphasis added). Indeed, the court instructed Appellant and codefendants that the court would assume and understood that whomever was objecting and arguing for a particular defendant was collectively objecting for the three codefendants at trial unless instructed otherwise. After the court instructed Appellant and codefendants of this, neither the Appellant or codefendants informed the court that this was an inappropriate assumption.

While this Court was correct in stating in Section I of Opinion No. 5590 that if "an appellant does not object or join in a codefendant's objection at trial, an issue cannot be raised by the appellant on appeal even though the appellant's codefendant objected[,]" it overlooked the fact that the court instructed and understood Appellant's and codefendants' responses were to be considered jointly and collectively unless told otherwise. In *State v. Page*, this Court ruled that an issue was preserved for appellant review when, although a motion was made by a codefendant rather than the appellant whom sought issue preservation, "the trial judge noted that the motion itself indicated it was a 'joint motion' . . . [and] understood the motion involved [the] Appellant [seeking preservation]." 406 S.C. 272, 283, 750 S.E.2d 623, 629 (Ct. App. 2013). This mirrors the present case as the trial court specifically instructed Appellant and codefendants of this assumption. At no point directly after this instruction or during the introduction of the NPLEX records at trial did Appellant or codefendants instruct the court not to assume that their arguments were not to be considered collectively. Moreover, while this Court was correct when it stated Appellant did not specifically state that he was joining in the arguments of codefendants, it failed to consider that Appellant never stated that it was not joining in codefendants' arguments as per the trial court's earlier instructions.

Though Appellant did state he, along with codefendants, had separate arguments in regards to the NPLEX records' introduction, nothing in the record indicates that Appellant's or codefendants' separate arguments were not made collectively on behalf of all codefendants. Additionally, the trial court's instructions demonstrate that the court understood that the separate arguments were being made collectively unless otherwise noted by Appellant or codefendants. Throughout the introduction of the NPLEX records during Paul Forst's testimony, the court indicated it understood that Appellant's and codefendants' objections and arguments were to be considered jointly on multiple occasions:

- R. p. 112 – "I'm going to find that it is admissible as a business record. . . .I'm going to note all parties objections."
- R. p. 114 – "Subject to the previously posed objection [State's Exhibit No. 22] is admitted." Additionally, before admitting the State's Exhibit Number 23, the court directly asks codefendants if they raise the same objections, to which they reply in the affirmative.
- R. p. 115 – The court states "[s]ubject to the same objection state's 24 through 26 are admitted" after Appellant objects.
- R. p. 116 – "Subject to the same objection, State's 30, 31 and 32 are admitted into evidence." "Subject to the standing objection the same is admitted into evidence."
- R. p. 117 – Before admitting the State's Exhibits Number 33-35 and 36-38, the court asks codefendants if they raise the same objections, to which Appellant replies "Yes, sir" and "Yes, Your Honor", respectively.
- R. p. 118 – "Subject to the same objections, 39 and 40 are admitted."

These statements demonstrate that it was understood between the court and codefendants that such objections and arguments made regarding the introduction of the NPLEX records were made collectively and jointly as the court did not differentiate between the arguments in its admitting of the records and also when the court permitted one codefendant to speak for the collective group. Accordingly, this Court overlooked that Appellant joined with codefendants' objection in regards to the NPLEX records' introduction. To rule otherwise would essentially be telling Appellant to disregard a specific instruction from the court.

Additionally, this Court misapprehended Appellant's objections when it determined that Appellant's objections were "not the same reasons [Appellant] raises on appeal in support of his argument. . . ." *State v. Mealor*, Op No. 5590, Shearouse's Adv. Sh. # 33 at 28. It is well settled in South Carolina that a party need not use any magic language or the precise name of a legal doctrine in order to preserve an issue for appellate review. *See e.g., Herron v. Century BMW*, 395 S.C. 461, 446 (2012) (stating that a party need not use magic language or the precise name of a legal doctrine so long as it is sufficiently clear as to the nature of the alleged error so that it could have been reasonably understood by the court); *see also Delta Apparel, Inc. v. Farina*, 406 S.C. 257, 268-69 (Ct. App. 2013). These cases support the proposition that Appellant need only to state his argument to such a degree that it is reasonably clear to the trial court what the basis for his objection is. *See e.g., id.*

In the present case, this Court correctly stated that Appellant's arguments as to the introduction of the NPLEX records were due to the records' lack "trustworthiness and reliability"; however, it incorrectly found Appellant's issues were not preserved for appellate review. *Mealor*, Op. No. 5590, Sherouse's Adv. Sh. # 33 at 28. "While a party may not argue one ground on appeal, . . . [the South Carolina Supreme Court] do[es] not require a party *to use the same language on appeal as it do at trial*." *Cain*, 419 S.C. at 34, 795 S.E.2d at 851 (citations omitted) (emphasis added). In the present case, while Appellant may not have specifically stated verbatim his objection under the business records exception to hearsay (although Appellant maintains it joined in codefendants' specific objections to the same), this Court did not consider that Appellant's reliability and trustworthiness argument is essentially the same. Unquestionably, the crux of not permitting the introduction of hearsay is because of its' questionable reliability and trustworthiness. *See State v. Burdette*, 355 S.C. 34, 44, 515 S.E.2d

525, 530 (1999) (stating the proposition that "[h]earsay statements are admissible . . . where the statement bears adequate 'indicia of reliability.'") (citations omitted); *see also State v. LaCoste*, 347 S.C. 153, 172, 553 S.E.2d 464, 474 (Ct. App. 2011) (finding that "[t]rustworthiness is the *cornerstone of Rule 803* exceptions to the hearsay rule.") (citations omitted) (emphasis added).

Here, Appellant's questioning of the NPLEX logs' reliability and trustworthiness certainly preserves Appellant's issues presented for review, even if this court does not determine that Appellant joined in codefendants' objections. The trial court acknowledged its' understanding of the same when it stated after Appellant's specific objection to the NPLEX records introduction that it was "going to find that [the NPLEX records] [are] admissible *as a business record.*" R. p. 112 (emphasis added); *see also* R. p. 110 (the court stated it was satisfied in the NPLEX's records' "reliability for purposes of admissibility."). Therefore, this Court incorrectly determined that Appellant's arguments regarding the NPLEX records' introduction were not preserved for appellate review "because [the issues] [were] raised to and ruled upon by the trial court." *Cain* at 34, 795 S.E.2d at 851.

III. The Court misapprehended and overlooked the law regarding expert witness qualifications when it affirmed the trial court's finding that Captain Brooks was an expert in clandestine lab manufacturing and that his testimony was reliable.

This Court respectfully misapprehended and overlooked that the trial court abused its discretion in qualifying Captain Chad Brooks in clandestine lab manufacturing and permitting him to testify as to the theoretical yield of methamphetamine from pseudoephedrine. While the Court was correct in stating that South Carolina has yet to discuss the expertise required to testify about yield of methamphetamine while noting other jurisdictions' analysis of the same, it disregarded those jurisdictions whose prosecution police experts were qualified as to only the investigation and identification methamphetamine labs rather than the actual theoretical yield.

See, e.g., Murrell v. State, 273 Ga. App. 735, 739, 615 S.E.2d 780, 785 (2005) (police officer with similar background as Captain Brooks was not qualified as an expert in clandestine lab manufacturing but correctly qualified "in the identification of methamphetamine and methamphetamine labs."); *Davenport v. State*, 308 Ga. App. 140, 144, 155, 706 S.E.2d 757, 762-63, 770 (2011) (police officer with similar background as Captain Brooks was qualified as an expert in *identification* of clandestine lab manufacturing) (emphasis added); *Gentry v. State*, 281 Ga. App. 315, 319, 635 S.E.2d 782, 786 (2006) (police detective who was "a senior drug investigator with years of experience and training in [the] field, testified at trial as an expert in the *detection* and *investigation* of methamphetamine laboratories.") (emphasis added); *State v. McPherson*, 111 Wash. App. 747, 760-62, 46 P.3d 284, 292-93 (2002) (finding a detective qualified as an expert on "meth labs").

In none of the above cited cases do the offered police experts, with similar training and background as Captain Brooks, testify as to the theoretical yield of methamphetamine from pseudoephedrine. Appellant cannot dispute that Captain Brooks was qualified as an expert in investigation and detection of methamphetamine labs; rather, Appellant contends that this court misapplied the laws concerning expert testimony when it contended Captain Brooks could testify as to chemical processes such as methamphetamine production. This is in line with recent precedent set by the South Carolina Supreme Court. In *State v. Cain*, the Supreme Court noted that the State's expert explained the methamphetamine yield from pseudoephedrine could be calculated "[u]sing a *scientific theory* known as stoichiometry. . ." 419 S.C. at 27, 795 S.E.2d at 848 (noting later that stoichiometry is "the *quantitative relationships involving the substances in chemical reaction.*") (citations omitted) (emphasis added). Indeed, Captain Brooks admits in his testimony that methamphetamine production involves chemical reactions. *See* R. p. 438 (when

questioned about the methamphetamine production process when ingredients are placed in a plastic two-liter bottle, Captain Brooks states "it starts pretty much an instant chemical reaction. . ."). Appellant's and codefendants' *voir dire* of Captain Brooks demonstrate that he has no specialized chemical training "other than high school chemistry." R. p. 428. Consequently, this Court misapplied the laws of expert qualification when it found that the trial court did not abuse its discretion in qualifying Captain Brooks as an expert in clandestine lab manufacturing.

Moreover, while this Court noted in its opinion that Appellant "maintain[ed] the trial court erred in finding [Captain Brooks'] testimony reliable," it did not provide any explanation or conclusion of the same. *State v. Mealor*, Op No. 5590, Shearouse's Adv. Sh. # 33 at 28. However, Appellant maintains that Captain Brooks' testimony was unreliable. In South Carolina, the gatekeeping function of the trial court in regard to the admission of expert testimony is two-fold, it is not a singular inquiry. This gate-keeping function looks at the "qualification" of the witness as an expert and then, after the witness has been qualified, a determination as to the reliability of the testimony the expert purports to offer. *See State v. Tapp*, 398 S.C. 376, 388, 728 S.E.2d 468, 474 (2012). This vetting of reliability requires that after the purported expert is qualified, the proponent of this evidence must demonstrate, and the trial Court must find, the purported testimony to be reliable. *See id.* The reliability of scientific expert testimony is determined by application of the "*Jones* standard," which provides that "the standard for admitting scientific evidence" is "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. Jones*, 273 S.C. 723, 731, 259 S.E.2d 120, 124 (1979). In applying the *Jones* standard the Court "looks at several factors, including: (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." *State v. Council*, 335 S.C. 1, 19, 515 S.E.2d 508, 517 (1999) (citations omitted).

This Court did not specifically evaluate the *Council* factors in its Opinion but did cite other jurisdictions' rulings purportedly to offer the reliability of methamphetamine conversion ratios. However, this Court disregards that in a number of the cases in which it relies, the facts are vastly different from the present case, in that with the relied upon cases, the defendants were found with a number of the precursor ingredients used to make methamphetamine and sometimes methamphetamine itself. As an example, in *Harmon v. State*, the defendant was arrested with a codefendant who attempted to throw bags of methamphetamine during flight from the police, and during the search of an automobile incident to arrest, officers recovered "three empty boxes of pseudoephedrine, cold packs, lithium battery strips, a jar of lye, a bottle of Liquid Fire, cut straws and pen casings, and aluminum foil[,]" and coffee filters which contained substances which tested positive for methamphetamine. 971 N.E.2d 674, 676 (Ind. Ct. App. 2012). Additionally, in *Buelna v. State*, a defendant was arrested with "methamphetamine precursors and tools used to manufacture methamphetamine: a pot, eight spent reaction vessels, pseudoephedrine pills, several hydrochloric acid generators, lithium batteries, cold packs, salt, a coffee grinder, and coffee filters" and was actually in the process of manufacturing methamphetamine using the one-pot lab method at the time of his arrest. 20 N.E.3d 137, 140 (Ind. 2014). Most importantly, in *People v. Wilke*, the defendant was arrested with a number of items, including blister packs, gas tanks, pseudoephedrine tablets, plant food, and lithium batteries, and the State's expert opinion was "based on the *combination* of the items recovered." 367 Ill. App. 3d 130, 132-33, 854 N.E.2d 275, 278-79 (2006) (emphasis added). These cases, on

which this Court relies, are certainly distinguishable from the present case as the defendants in those cases were found with actual methamphetamine and/or ingredients to make the same.

Moreover, to purportedly demonstrate that the theoretical yield calculation is consistent with recognized scientific laws, this Court noted that Captain Brooks' testified that the pseudoephedrine to methamphetamine conversion is "basically[] a mathematical equation[] [b]y taking the grams of [p]seudoephedrine that are introduced into the lab. . . ." *State v. Mealor*, Op No. 5590, Shearouse's Adv. Sh. # 33 at 28. However, this Court overlooked that Captain Brooks' testimony relies on only one of the many ingredient needed to manufacture methamphetamine. Indeed, his theoretical yield testimony in this case is not a yield calculation based on the multiple necessary ingredients to manufacture methamphetamine, but only with regard to the single ingredient of pseudoephedrine. His testimony offered no evidence of the specific quantities of other ingredients in order to support his calculations. The record is devoid of any testimony regarding how much, for example, batteries, ammonium nitrate, or sulfuric acid is needed to support his calculation.

Additionally, the record does not contain any specific evidence as to the actual quantity of these other materials Appellant allegedly had at his disposal. Without this, Captain Brooks' theoretical yield testimony is simply evidence of what a theoretical chemist could make given the required amount of other ingredients. This is not reliable as it could not assist the jury in determining the alleged methamphetamine producing capabilities of Appellant himself. *See Cain*, 419 at 33, 795 S.E.2d at 851 (holding that the State's expert, a forensic chemist, did not provide "the jury [any] basis on which to determine how much methamphetamine" the defendant could have actually produced when she testified only as to theoretical yield.). Indeed, Captain Brooks' "testimony [could be] permissible as long as the method [he] uses for showing final

yield is accurately tailored to the specific manufacturing conditions, ingredients, and skill of [Appellant]." *Bulena*, 20 N.E.3d at 146. However, in the present case, it was not. Accordingly, this Court misapprehended the rules of expert testimony and reliability of the same when it stated the trial court did not abuse its discretion in permitting Captain Brooks' testimony.

WHEREFORE, because this Court has misapprehended or overlooked the points outlined above, the Appellant respectfully requests that this Court rehear the matter and consider the arguments presented in his Initial Brief.

Respectfully submitted,

August 29, 2018

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THE STATE OF SOUTH CAROLINA
In the Court of Appeals

APPEAL FROM PICKENS COUNTY
Court of General Sessions

Robin B. Stilwell, Circuit Court Judge

Case No. 2013-002752

State of South Carolina

Respondent,

v.

Michael Levant Mealor

Appellant.

CERTIFICATE OF SERVICE

The undersigned attorney hereby certifies Appellant's Petition for Rehearing regarding the above-referenced case has been served upon Deborah R.J. Shupe, Esquire, Office of the Attorney General, P.O. Box 11549, Columbia, SC 29211 this 29th day of August, 2018.

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STATE OF SOUTH CAROLINA

IN THE COURT OF APPEALS

Appeal from Pickens County
Honorable Robin B. Stilwell, Circuit Court Judge
Appellate Case No. 2013-002752

THE STATE,

RESPONDENT,

v.

MICHAEL LEVANT MEALOR,

APPELLANT.

RETURN TO PETITION FOR REHEARING

Respondent, State of South Carolina, by and through the undersigned counsel, responds to Appellant's Petition for Rehearing as follows:

I. The Court correctly interpreted the South Carolina Supreme Court's holding in State v. Cain as it related to the directed verdict issue.

Appellant contends this Court failed to properly consider and apply the Supreme Court's holding in State v. Cain, 419 S.C. 24, 795 S.E.2d 846 (2017), in affirming the circuit court's denial of Appellant's directed verdict motion. To the contrary, the Court thoroughly, and correctly, analyzed Cain and distinguished it from the instant case.

Of particular significance is the Cain opinion's comparison of the evidence regarding the defendant's knowledge of, and participation in, the manufacturing of methamphetamine, to the evidence presented in United States v. Eide, 297 F.3d 701 (8th Cir. 2002), which Appellant virtually ignores. In affirming the defendant's conviction for attempting to manufacture five

grams or more of methamphetamine, the Eide court found the particularized nature of the government's expert witness' explanation of the methamphetamine manufacturing processes, "combined with additional evidence suggesting Eide was experienced in the manufacture of methamphetamine, were sufficient for a jury to find beyond a reasonable doubt that Eide was a good cook capable of producing a 40 to 50 percent yield." 297 F.3d at 705. The Supreme Court compared the Eide evidence to the evidence presented in Cain's trial, and found the State failed to produce **any** evidence the defendant **ever** manufactured **any** amount of methamphetamine, much less the theoretical yield presented by the State's expert witness. 419 S.E.2d at 850-851.

In the instant case, this Court thoroughly analyzed the evidence presented at trial through the lens of Cain, Eide, as well as cases from other jurisdictions, involving the manufacturing of methamphetamine, and found the State's evidence was sufficient to present the case to the jury. State v. Mealor, ____ S.C. ____, ____ S.E.2d ____, 2018 WL 3862993 at **9-14 (S.C.Ct.App. 2018). Appellant's attempt to cherry-pick certain pieces of evidence in isolation, while ignoring the evidence presented in its entirety, is unavailing. As in Eide, '[t]he combined effect of [the government expert's] particularized testimony and the strong and detailed circumstantial evidence linking Eide to the manufacture of methamphetamine were enough for the jury to conclude that [the expert's] calculations were an accurate estimate of Eide's manufacturing capabilities." 297 F.3d at 706.

At trial, the State presented the following evidence:

> 1. NPLEX records documented numerous purchases of pseudoephedrine by Appellant and his co-defendants at multiple pharmacies between January and December 2011. (State's Exhibits 1-40; R., pp. 756-934);
>
> 2. Co-defendant Rebecca Crisp testified she gave all the Sudafed she purchased during that time (10.8 grams) to another co-defendant who lived in the home with Appellant and Greenfield, she saw methamphetamine used in that home, as well

as plastic bottles and batteries with the labels peeled off, and she detected a "toxic" smell there a few times. (TT, pp. 138-147; R., pp. 131-140);

3. Co-defendant Steven Hurley testified he purchased Sudafed for Greenfield, who told him the legal limits he could purchase, and gave one-half (15.12 grams) of what he purchased in 2011 to Greenfield in exchange for methamphetamine. (TT, pp. 213-216; R., pp. 206-209);

4. Co-defendant Kelley McCall testified she gave her 2011 Sudafed purchases (17.28 grams) to Appellant and Greenfield, and a few days later they gave her a bag of methamphetamine; Greenfield told her they could make methamphetamine cheaper and cleaner than what they could buy on the street; she saw many plastic bottles where Appellant lived, and Appellant said they could feel the plastic bottles expand better than glass bottles; and when she noticed a strong odor in the home, Greenfield told her the less she knew, the better. (TT, pp. 241-252; R., pp. 234-245);

5. Co-defendant Angela Armstrong testified she purchased 12.81 grams of Sudafed in 2011, gave all but 1.77 grams (11.04 grams) to Appellant and Greenfield, and several days later, she received methamphetamine in return; Appellant and Greenfield told her they were making methamphetamine, and said they could make it cheaper and better. (TT, pp. 275-280, 294-296; R., pp. 268-273, 287-289);

6. Co-defendant Melissa Wardlaw testified she gave one-half (22.32 grams) of the Sudafed she purchased in 2011 to Appellant, who gave her the money to buy it and she kept the change; she knew other people were also buying it for him, and she saw Greenfield with Sudafed at times; she knew Appellant was making methamphetamine; she saw him purchase ether and batteries; and she heard Appellant and Greenfield talking about cooking methamphetamine and saying they could do it. (TT, pp. 312-331, 346; R., pp. 305-324, 339).

7. Co-defendant Thomas Rooney testified he gave at least two boxes (5.76 grams) of his 2011 Sudafed purchases to Appellant and Greenfield, in exchange for methamphetamine and money; he saw Appellant and Greenfield use the shake and bake method to make methamphetamine in their bedroom "quite a few" times; he saw plastic bottles, big bottles of Coleman fuel, and cut open batteries at the home; and he smelled a strong ammonia type smell in the home when they were making the methamphetamine. (TT, pp. 361-371; R., pp. 354-364);

8. Co-defendant Billy Miller testified he gave all his 2011 Sudafed purchases (17.28 grams) to Appellant and Greenfield in exchange for methamphetamine, and they told him they were making methamphetamine. (TT, pp. 384-397; R., pp. 377-390);

9. Co-defendant Lauren Summerall testified she and her husband purchased Sudafed (7.2 grams) for Appellant and Greenfield in 2011 in exchange for money and methamphetamine, and they knew Appellant and Greenfield were making methamphetamine with the Sudafed they provided. (TT, pp. 393-397; R., pp. 386-390);

10. Co-defendant Michael Hayes testified he gave all of his 2011 Sudafed purchases (60.74 grams) to Appellant in exchange for methamphetamine, which he picked up a few days after he provided the Sudafed. (TT, pp. 407-414; R., pp. 400-407);

11. Co-defendant Amanda Hurley testified Appellant and Greenfield gave her and her husband money to purchase Sudafed in 2011, and they gave about one-half (23.02 grams) of their 2011 Sudafed purchases to Appellant and Greenfield. (TT, pp. 516-521; R., pp. 509-514).

12. In addition to the pseudoephedrine they received from the co-defendants, Appellant and Greenfield each purchased over sixty-five grams of pseudoephedrine in 2011. (State's Exhibits 1 [Appellant] and 2 [Greenfield]; R., pp. 756-760; 761-765); and

13. Capt. Brooks testified pseudoephedrine, ether, Coleman fuel and lithium (from cut open batteries) are used in the shake and bake method of making methamphetamine; plastic bottles are used rather than glass bottles because the plastic expands more the person can feel when the pressure builds, and they are less likely to explode so they are generally safer; methamphetamine manufacturers use other people to purchase pseudoephedrine for them in order to avoid the legal limitations (smurfing); based on his training and experience, the yield rates of pseudoephedrine to methamphetamine are from 40% to 92%; bottles used in the shake and bake method are easy to clean or discard so they are very portable for use as a methamphetamine lab; and the manufacturing process creates a very strong ammonia smell (TT, pp. 439-462; R., pp. 432-455).

14. According to the NPLEX records and co-defendants' testimony, Appellant received a total of 234 grams of pseudoephedrine in 2011. If Appellant's personal purchases were all for medicinal purposes, he received a total of 164.64 grams of pseudoephedrine.

Thus, there was ample evidence establishing Appellant engaged in a year long conspiracy resulting in the actual manufacturing and trafficking of methamphetamine.[1] In addition to the

[1]South Carolina Code §44-53-375 provides that a person who knowingly sells, manufactures, delivers or purchases, or otherwise aids, abets, **attempts or conspires** to sell, manufacture, deliver or purchase ten grams or more of methamphetamine is guilty of the felony

direct evidence, there was significant circumstantial evidence regarding the amount of pseudoephedrine the co-defendants supplied to Appellant for the express purpose of manufacturing methamphetamine. Considered in its entirety, the direct and circumstantial evidence was sufficient for the jury to find beyond a reasonable doubt that Appellant conspired to traffick between twenty-eight and one hundred grams of methamphetamine during the course of the 2011 conspiracy.

Appellant also asserts a directed verdict was warranted because the State failed to present evidence regarding "any specific amounts of the additional ingredients of methamphetamine" he ever possessed. This assertion is likewise unavailing.

In Varble v. Commonwealth, 125 S.W.3d 246 (Ky. 2004), the Kentucky Supreme Court rejected the defendant's argument he could not be convicted of manufacturing methamphetamine because no anhydrous ammonia or coffee filters were recovered. The court noted testimony about an odor of anhydrous ammonia from two air tanks and disclosure of brass fittings likely caused by anhydrous ammonia was circumstantial evidence of possession of the precursor. In rejecting the defendant's argument, the Kentucky Supreme Court commented: "Appellant's argument is akin to claiming that his possession of twenty-two Sudafed blister packs would not support his conviction because the blister packs were empty." Id. at 254. *See also* United States v. Beshore, 961 F.2d 1380, 1383 (8th Cir.) (noting an approximation of a drug quantity "does not require that every precursor chemical be present").

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of trafficking in methamphetamine. Contrary to Appellant's contention the State's theory was "one of attempt," the State contended that in furtherance of a continuing criminal conspiracy between January and December 2011, Appellant knowingly manufactured, or conspired to manufacture, between twenty-eight and one hundred grams of methamphetamine. For purposes of the directed verdict analysis, this Court found the State "presented evidence from which the jury could find [Appellant] **manufactured or attempted to manufacture** over twenty-eight grams of methamphetamine." Mealor, ____S.E.2d at _____, 2018 WL 3862993 at *13 (emphasis added).

As this Court found, there was testimony from co-defendants regarding first-hand observations of Appellant participating in "activities related to the manufacturing of methamphetamines at [Appellant's} residence," as well as the presence of odors associated with manufacturing methamphetamine, plastic drink bottles, Coleman fuel, and cut open batteries. This evidence established Appellant not only possessed the necessary precursor ingredients for manufacturing methamphetamine, he actually used those ingredients to manufacture methamphetamine over the course of the year long conspiracy.[2]

Taken to its logical conclusion, Appellant's assertion that proof of not only the actual possession of precursor ingredients is required, but evidence of the amount of each ingredient possessed is required, leads to the absurd result that people (such as Appellant) engaged in a lengthy conspiracy to manufacture methamphetamine, during which they actually manufacture methamphetamine, can only be charged for the methamphetamine they actually possess at the time of their arrest, if any, and only the precursor ingredients they possess at that time may be used to determine the amount of methamphetamine they manufactured during the entire conspiracy. Given the extremely portable and disposable nature of most clandestine methamphetamine labs, particularly those using the shake and bake manufacturing method Appellant used, law enforcement will rarely be able to make a trafficking case, which essentially nullifies the legislative intent of §44-53-375.

Finally, Appellant's contention the jury could only speculate about the amount of methamphetamine he manufactured over the course of the continuing conspiracy ignores the express language of the statute and the evidence presented. The statute provides a trafficking

[22]The yield rates used by the federal government, and most experts in the field, only consider the amount of pseudoephedrine at issue, and the yield rates differ according to the cook's expertise, including the type and amount of precursor ingredients (other than pseudoephedrine) the cook uses.

charge arises in cases involving ten or more grams of methamphetamine, an amount easily established by the methamphetamine Appellant gave his co-defendants after they supplied him with pseudoephedrine. Further, even assuming Appellant was not a skilled methamphetamine cook, and could only produce a yield rate of twenty percent pseudoephedrine to methamphetamine, the amount yielded by the pseudoephedrine he received in 2011 still exceeded twenty-eight grams. Final Brief of Respondent, p. 21, n. 7.

In affirming the denial of Appellant's directed verdict motion, this Court properly considered the Supreme Court's holding in Cain, and thoroughly analyzed the law in other jurisdictions regarding the admissibility of testimony regarding theoretical pseudoephedrine to methamphetamine yield rates,. Accordingly, Appellant's Petition for Rehearing on this issue should be denied.

II. The record amply supports the Court's holding that Appellant's challenge to admissibility of the NPLEX logs was not preserved for appellant review; but even if preserved, the challenge is meritless under applicable law.

Appellant contends this Court should reconsider its holding he failed to preserve for appellate review the issue of alleged error in admitting the NPLEX logs under the business records exception to hearsay, the lack of a proper foundation, and Rule 403, SCRE.[3] The record citations Appellant submits as support of his contention the issue was preserved amply demonstrate and support the Court's preservation holding.

Appellant correctly points out the circuit court's pre-trial statement Appellant and his co-defendants would have the opportunity during trial to object to introduction of the NPLEX logs under the business records exception, stating: "unless y'all (sic) tell me otherwise, I assume that whoever responds is responding for everyone," and then instructing the defendants to let the

[3]Appellant's Petition for Rehearing does not seek reconsideration of the Court's finding the Rule 403 issue was not preserved.

court know if "that's an inappropriate assumption." (R., p. 29). He then tries to avoid the significance of this instruction in relation to his objection to the NPLEX logs when they were offered as evidence during trial.

The State presented the custodian of records for the company that collects and maintains the records pharmacies are required by statute to submit regarding pseudoephedrine purchases in their stores. When the NPLEX logs of Appellant's and the co-defendant's 2011 pseudoephedrine purchases were offered as evidence, the solicitors and defense counsel had a bench conference with the court, and the jury was excused. (R., pp. 103-108).

Appellant's counsel then stated: "Your Honor, first off, I believe **we all three have separate arguments to make**." (R., p. 108) (emphasis added). In light of the court's initial instruction to counsel to let the court know if the assumption an objection made by one was made by all was inappropriate, counsel's statement immediately informed the court the initial assumption **was** inappropriate, and each co-defendant was making his/her own objections regarding the NPLEX logs. Appellant's only stated objection was to the records' "trustworthiness and reliability" because the documents "have no date range of purchase." (R., p. 108).

In the face of counsel's express indication the co-defendants had separate objections regarding admissibility of the NPLEX logs, Appellant now attempts to assign mind-reading capabilities to the circuit court, essentially arguing the court should have somehow known the earlier assumption still applied. This argument is grossly unfair to the circuit court, and contrary to the case law regarding preservation of objections by co-defendants. The mere fact the court subsequently noted "all parties' objections," and admitted the records "subject to the same objections," does not mean the court was referencing the pre-trial assumption, especially in light

of counsel's statement to the contrary. Using Appellant's own words, allowing Appellant to prevail on this issue "would essentially be telling [the circuit court] to disregard [its own] specific instruction" regarding application of the pre-trial instruction. Pet. For Reh., p. 7. Accordingly, the Petition for Rehearing should be denied on this issue.[4]

III. The Court correctly applied the law regarding expert witness qualification in affirming the circuit court's qualification of Captain Brooks as an expert regarding clandestine methamphetamine labs, and allowing his testimony in that capacity.

Appellant also seeks rehearing on the issue of Captain Brooks' qualification as an expert in clandestine lab manufacturing and the reliability of his testimony, particularly on the issue of theoretical pseudoephedrine to methamphetamine yield rates from such labs. Appellant does not dispute Captain Brooks' qualification "as an expert in investigation and detection of methamphetamine labs," but contends Captain Brooks' expert qualifications did not allow him to testify "to chemical processes such as methamphetamine production." (Pet. for Rehg., p. 10).

In affirming the admission of Captain Brooks' testimony, this Court thoroughly reviewed and discussed the testimony regarding Captain Brooks' qualifications, as well as federal and state case law and other authoritative sources, on the issue of admissibility of testimony regarding theoretical yield rates. Mealor, _____ at _____, 2018 WL at **5-8. Appellant literally ignores the analysis of the authorities cited by the Court, contending they are distinguishable simply because the defendants possessed precursor ingredients at the time of their arrests. Rather than address the legal analysis of those decisions, Appellant instead cites to cases in which the police experts were **not** called to testify about theoretical yield rates, with one of the cited cases

[4]Assuming for purposes of argument only that Appellant's contentions regarding admissibility of the NPLEX logs as business records was preserved, that issue is discussed in depth in the Final Brief of Respondent, and incorporated herein by reference in its entirety. (Final Brief of Respondent, pp. 7-13).

essentially finding manufacturing methamphetamine is not "rocket science," and "methamphetamine cooking is relatively easy and is done by numerous persons without a higher education." State v. McPherson, 111 Wash.App. 747, 46 P.3d 284, 292 (2002). The cases cited by this Court, however, directly address and analyze the admissibility of theoretical yield testimony.

Appellant contends the Supreme Court's Cain decision indicates a chemistry expert is required to testify about theoretical yield rates because they are calculated using a scientific theory and involve chemical processes and reactions, and therefore, Captain Brooks' testimony about the rates was unreliable and inadmissible. He also asserts (again) the testimony was unreliable because it could not assist the jury in determining how much methamphetamine Appellant could produce in the absence of evidence regarding the amount of precursor ingredients he ever possessed.

The Cain decision is not as broad as Appellant asserts, and it is factually distinguishable from the instant case. In Cain, the **only** evidence regarding the quantity of methamphetamine the defendant produced was the chemist's testimony regarding the theoretical yield of methamphetamine based on empty pseudoephedrine packages found in his residence. Significantly, the Supreme Court found there was no evidence the defendant "even knew how to manufacture methamphetamine," and the chemist's testimony provided "no basis for calculating the level of efficiency [the defendant] could actually have reached under the circumstances that existed in the house." 419 S.E.2d at 850.

As set forth in this Court's opinion in the instant case, unlike Cain, there was evidence Appellant had successfully manufactured methamphetamine on multiple occasions in 2011. According to the co-defendants' testimony, Appellant himself bragged that he could produce

methamphetamine better and more efficiently than could be obtained from other street sources. Thus, there was ample evidence regarding Appellant's ability to manufacture methamphetamine from pseudoephedrine using the "one pot" method, and his actual production of methamphetamine.[5]

The Court's analysis of the expert testimony issue in this case is thorough and well-reasoned. Appellant's grounds for rehearing are meritless, and the Petition for Rehearing should be denied on this issue.

Based on the foregoing and the arguments set forth in the Final Brief of Respondent, which are incorporated herein in their entirety by reference, Respondent respectfully submits the Petition for Rehearing should be denied as to each issue raised therein.

Respectfully submitted,

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ATTORNEYS FOR RESPONDENT

November 26, 2018

[5]Appellant emphasizes the Court's statement there was no evidence he was a "good cook" of methamphetamine. While no witness used that particular term, Appellant's own statements indicated he was a good methamphetamine cook.

STATE OF SOUTH CAROLINA

IN THE COURT OF APPEALS

Appeal from Pickens County
Honorable Robin B. Stilwell, Circuit Court Judge
Appellate Case No. 2013-002752

THE STATE,

RESPONDENT,

v.

MICHAEL LEVANT MEALOR,

APPELLANT.

PROOF OF SERVICE

I, Sally Ellison, certify I served the Return to Petition for Rehearing on Appellant by depositing copies in the United States mail, postage prepaid, addressed to:

Robert M. Dudek, Esquire (one copy)
Chief Appellate Defender
S.C. Commission on Indigent Defense
Division of Appellate Defense
Post Office Box 11589
Columbia, SC 29211

Ryan Christopher Andrews, Esquire (one copy)
222 W. Coleman Boulevard
Mt. Pleasant, SC 29464

I further certify all parties required by Rule to be served have been served.

This 26th day of November 2018.

Sally Ellison

SALLY ELLISON
Legal Assistant
Office of the Attorney General
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Columbia, SC 29211

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 Greenfield[4] 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.

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[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 witnesses[6] 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.

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[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

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[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 Caption 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

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[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.*

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[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 (NADDI)] 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. Forst, 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. Mealor points to the fact that these witnesses did not testify as to observing a particular purchase by Mealor 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, Mealor 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, Mealor 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, Mealor 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.

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[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]

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[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

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"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. Mealor 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

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[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 pseudophedrine." *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

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[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.