IN THE CIRCUIT COURT FOR PRINCE GEORGE'S COUNTY, MARYLAND

STATE OF MARYLAND	*	
	*	
v.	*	Case No. CT12-1375X
KOBINA EBO ABRUQUAH ,	*	
Defendant.	*	

* * * * * * *

OPINION AND ORDER

The above-captioned matter came before the Court on July 19, 2017, based on the Defendant's Motion *in Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony. On August 24, 2017, December 18, 2017, February 1, 12, 13, 2018, and March 13, 2018, the Court heard arguments from both sides and expert testimony in support thereof. For the reasons set forth herein, this Court finds the following.

BACKGROUND INFORMATION

On October 19, 2012, the Defendant was charged with Murder and Use of a Handgun in the Commission of a Crime of Violence in relation to the shooting death of Ivan Aguirre Herrera. Mr. Aguirre Herrera's body was discovered on August 4, 2012, at 6213 Kenilworth Avenue in Prince George's County, Maryland. At the time of the murder, the Defendant and Mr. Aguirre Herrera were roommates.

The Defendant filed a Motion *in Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony on July 19, 2017. The State filed an Opposition to Defendant's Motion *in Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony on July 26, 2017.

On August 23, 2017, the Defendant filed a Memorandum in Reply to the State's Opposition to the Motion *in Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony.

All parties appeared before the Court on August 24, 2017, for a hearing on all motions *in limine*. The Court reserved judgment on the Motion to Exclude or Restrict Firearm or Toolmark Identification Testimony in order to receive further evidence. Supplemental materials were provided to the Court for consideration by both sides.

On December 18, 2017, February 1, 12, 13, 2018, and March 13, 2018, the Court held further evidentiary hearings on this issue, at which both sides presented expert testimony and oral arguments. The Defendant presented the expert testimony of William Tobin, and the State presented the expert testimony of Dr. James Hamby, Torin Suber, and Scott McVeigh. The matter was taken under advisement.

STANDARD OF REVIEW

When determining the admissibility of expert testimony, Maryland courts employ a two-tier analysis. First, the testimony must meet the *Frye-Reed* "general acceptance" standard. Second, the trial judge must exercise his discretion under Maryland Rule 5-702 to analyze the specific expert and proffered testimony to ensure its applicability and helpfulness to the jury. Only upon a showing of all these factors by the proffering party may the Court find that the evidence may be introduced at trial.

The *Frye-Reed* standard requires that any scientific evidence or testimony must be generally recognized as valid in order to be admissible. The Maryland Court of Appeals in *Frye v. United States*, 54 App. D.C. 46, 47, 293 F. 1013, 1014 (1923), stated that for scientific evidence to be admissible at trial, it "must be sufficiently established to have gained general acceptance in the particular field in which it belongs." This standard was further expounded

upon and adopted in *Reed v. State*, 283 Md. 374, 391 A.2d 364 (1978) (holding that Maryland courts should continue to use "the 'general acceptance' rule which the *Frye* case sets forth"). In *Reed*, the Court found that "[a]s long as the scientific community remains significantly divided, results of controversial techniques will not be admitted, and all defendants will face the same burdens. If, on the other hand, a novel scientific process does achieve general acceptance in the scientific community, there will likely be as little dispute over its reliability as there is now concerning other areas of forensic science." *Id.* at 388, 391 A.2d at 371. The Court recognized that new and unproven technologies should not be admitted against defendants without the State proving that a reliable scientific basis existed. *Blackwell v. Wyeth*, 408 Md. 575, 585-86, 971 A.2d 235, 241-42 (2009). In doing so, the Court purposefully created an obstacle to the introduction of specious evidence. *Id.*

This standard was recently reiterated and summarized in *Clemons v. State*, 392 Md. 339, 363-64, 896 A.2d 1059, 1073 (2006). The court in *Clemons* stated that "[w]here the validity and reliability is so broadly and generally accepted within the scientific community, as is the case of ballistics tests, blood tests, and the like, a trial court may take judicial notice of its reliability. Likewise, a court may take judicial notice that certain procedures, widely recognized as bogus or experimental, are unreliable." *Id.* Therefore, in order to present expert testimony as to a scientific finding, a party must demonstrate that the technology has been "accepted as reliable within the expert's particular scientific field." *Reed,* 283 Md. at 381-82, 391 A.2d at 368.

Under the *Frye-Reed* standard, evidence sought to be introduced "must be based on a scientific method or principle that has gained general acceptance in the *relevant* scientific community." *Ross v. Housing Auth. of Baltimore City*, 430 Md. 648, 63 A.3d 1 (2013) (emphasis added). The community whose opinion is relevant directly depends on the type of evidence

sought to be presented. *Reed*, 283 Md. at 381-82, 391 A.2d at 368. In the case at bar, the firearm identification testimony would necessitate that the firearm and toolmark examiners generally accept the present methodology as reliable. *See United States v. Monteiro*, 407 F. Supp. 2d 351, 372 (D. Mass. 2006) ("[I]t is clear that the community of firearm and toolmark examiners accepts the current identification methodology") (citing Richard Grzybowski, et al., *Firearm/Toolmark Identification: Passing the Reliability Test Under Federal and State Evidentiary Standards,* 35 AFTE J. 209, 220-21 (2003)).

Once deemed reliable, the trial judge may still exercise his discretion to admit or exclude the proffered testimony in accordance with Maryland Rule 5-702. *Reed*, 283 Md. at 389, 391 A.2d at 372 (stating that a judge must find that the expert testimony "will be helpful to the jury, that the expert is qualified, etc."). Maryland Rule 5-702 requires the trial judge to independently determine, prior to the admission of expert testimony, (1) that the expert is qualified; (2) that he is appropriate to testify on that particular subject; and (3) that a proper factual basis supports the expert testimony. Md. Rule 5-702 (West 2017). Generally, "[e]xpert testimony is admissible if the court determines that the testimony will assist the trier of fact to understand the evidence or determine a fact in issue." *Waldt v. University of Maryland Medical System Corp.*, 181 Md. App. 217, 956 A.2d 223 (2008), *cert. granted* 406 Md. 744, 962 A.2d 371, *aff'd in part, rev'd in part* 411 Md. 207, 983 A.2d 112, *reconsideration denied.* The trial judge may admit the expert testimony if he finds that the expert meets each of these prongs, and this ruling is judged by an abuse of discretion standard upon review. *Morton v. State*, 200 Md. App. 529, 542, 28 A.3d 98, 106 (2011) (quoting *Rodriguez v. Clarke*, 400 Md. 39, 57, 66, 926 A.2d 736 (2007)).

DISCUSSION

A. Legal Landscape

In recent years, courts have increasingly scrutinized the admissibility of expert testimony in the field of firearms and toolmark identification.[1] This scrutiny is largely due to three recent studies from the National Academies of Sciences and President's Council of Advisors on Science and Technology that call into question both the underlying methodology of firearm and toolmark identification. PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY (PCAST): FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE COMPARISON Methods (2016) ("PCAST Report"); National Research Council, *Strengthening Forensic Science in the United States: A Path Forward* (National Academies Press 2009) ("2009 NAS Report"); National Research Council, *Ballistic Imaging Report* (National Academies Press 2008) ("2008 NAS Report"). These reports denounce firearm identification as a science and question its reliability by touting the examination's inherent subjectivity and the lack of empirical studies that validate claims of low error rates. PCAST Report, at 109-10; 2009 NAS Report, at 153-54; 2008 NAS Report, at 53. *See also United States v. Willock*, 696 F. Supp. 2d 536, 567 (D. Md. 2010) (noting that "[t]he NRC focused principally on subjectivity as a pitfall for toolmark identification tests and cautioned that the methods 'have never been exposed to stringent scientific scrutiny'") (quoting 2009 NAS Report, at 42).

Indeed, many courts are now calling for further studies and restrictions on admissibility. *See, e.g., Willock*, 696 F. Supp. 2d at 568 (providing factors for courts to consider prior to admitting expert testimony); *United States v. Foster,* 300 F. Supp. 2d 375, 377 n.1 (D. Md. 2004) (noting the long-standing reliability of firearms examination). Some courts gone so far as to

[1] Firearm and toolmark identification is the examination of bullets, cartridge casings, or ammunition to determine whether it was fired from a suspect weapon. *See Fleming v. State*, 194 Md. App. 76, 1 A.3d 572 (2010).

reject firearms examination as a science and declare it was instead a technique or specialized skill. *United States v. Glynn*, 578 F. Supp. 2d 567, 574 (S.D.N.Y. 2008) ("[B]allistics examination not only lacks the rigor of science but suffers from greater uncertainty than many other kinds of forensic science") (citing 2008 NAS Report); *United States v. Green,* 405 F. Supp. 2d 104, 120-22 (D. Mass. 2005) (examining ways in which firearm identification evidence fails to meet *Daubert* criteria as a science and cautioning other courts against "grandfathering in irrationality"); *United States v. Diaz,* No. 05-167, 2007 WL 485967, at *11-12, 2007 U.S. Dist. LEXIS 13152, at *35-36 (N.D.Cal. Feb. 12, 2007).

However, despite its shortcomings, each court has continued to find the underlying methodology of firearm identification to be generally accepted and sufficiently supported by studies to be considered reliable. *United States v. Chester*, No. 13-CR-00774, Order at 3 (Northern D. Ill. Oct. 7, 2016) ("PCAST report does not undermine the general reliability of firearm toolmark analysis or require exclusion of the proffered opinions"); *United States v. Taylor*, 663 F. Supp. 2d 1170, 1180 (D.N.M. 2009) (finding firearms identification to be a valid peer-reviewed discipline and "widely accepted" in the community of trained firearms examiners); *Glynn,* 578 F. Supp. 2d at 574 (determining that the "methodology has garnered sufficient empirical support as to warrant its admissibility"); *Monteiro*, 407 F. Supp. 2d at 355 (concluding that the "methodology is reliable"). Even the two cases that precluded the proffered expert from testifying found that the underlying methodology of firearms identification was reliable and generally admissible. *See Monteiro*, 407 F. Supp. 2d at 355; *Willock*, 696 F. Supp. 2d at 569-70.

In Maryland, firearm identification remains admissible and has only been subject to collateral attack. The Court in *Fleming v. State*, 194 Md. App. 76, 97, 1 A.3d 572, 584 (2010),

held that the trial court's admission of the expert testimony on firearms and toolmark identification was harmless error. *Id.* at 98-99, 1 A.3d at 585 (noting that "the comparative microscopy methodology for firearm toolmark identification remains generally accepted within the scientific community under *Frye-Reed*"). Further, in *Patterson v. State*, 229 Md. App. 630, 633, 146 A.3d 496, 497 (2016), the court reviewed the denial of a Petition for Writ of Actual Innocence. The firearms examiner had testified at trial that the bullet recovered was definitively fired from the defendant's gun "to the exclusion of any other firearm in the world." *Id.* at 634, 146 A.3d at 498 (quoting *Patterson v. State*, No. 1932, Sept. Term 1993, slip op., at 1-2 (filed July 28, 1994) (per curiam)). Citing *Fleming* as a demi-holding, the Court declined to qualify the recent challenges to firearm and toolmark identification as newly discovered evidence and upheld the denial. *Id.* at 641-42 n.7, 146 A.3d at 502-03.

Specified challenges to the admission of firearms examination evidence and testimony often arise on a multi-level basis. In the case at bar, the defense argues that the State should be prohibited from presenting a firearms identification expert based on (1) the unreliability of the underlying methodology of firearms examination based on a faulty premise, erroneous validation studies, and error rates; and (2) the unclear application of the methodology by the specific firearms examiner in this case. He asks that this Court exclude any expert testimony, or at the very least, restrict the standard to which the expert may testify. As described below, the Court will deny in part and grant in part the Defendant's motion.

B. Underlying Methodology, Validation Studies, and Error Rates of Firearms and Toolmark Identification

1. Defendant's Argument

The Defendant first challenges the underlying methodology of firearm and toolmark identification, arguing that the entire premise of the field is a fallacy. He argues that both the

premise of uniqueness for each firearm and the Theory of Identification[2] followed by the Association of Firearm and Tool Mark Examiners (AFTE) are wholly unsupported.

The defense expert in forensic metallurgy, William Tobin, testified that "no comprehensive and meaningful studies" prove the validity and reliability of this alleged forensic science. He cited both the NAS and PCAST reports referenced above and offers them as proof that no scientific basis exists for firearm and toolmark identification. The Defendant, through his expert, refutes the purported validation studies (also referred to as "ten gun" studies) claiming low error rates of firearm identification because they use a closed-set sample of guns, which leads to deductive reasoning. In reality, actual firearm examinations use open-set samples that lead to inductive reasoning and require "proper statistical inference" to reach a conclusion. Tobin Rep. 2. Therefore, the Defendant contends that the alleged validation studies are not

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[2] The AFTE Theory of Identification states as follows:

1. The theory of identification as it pertains to the comparison of toolmarks enables opinions of common origin to be made when the unique surface contours of two toolmarks are in "sufficient agreement."

2. This "*sufficient agreement" is related to the significant duplication of random toolmarks as evidenced by a pattern or combination of patterns of surface contours*. Significance is determined by the comparative examination of two or more sets of surface contour patterns comprised of individual peaks, ridges and furrows. Specifically, the relative height or depth, width, curvature and spatial relationship of the individual peaks, ridges and furrows within one set of surface contours are defined and compared to the corresponding features in the second set of surface contours. Agreement is significant when it exceeds the best agreement demonstrated between toolmarks known to have been produced by different tools and is consistent with agreement demonstrated by toolmarks known to have been produced by the same tool. *The statement that "sufficient agreement" exists between two toolmarks means that the agreement is of a quantity and quality that the likelihood of another tool making the mark is so remote as to be considered a practical impossibility.*

3. Currently the interpretation of individualization/identification is subjective in nature, founded on scientific principles and based on the examiner's training and experience.

Robert M. Thompson, *Firearm Identification in the Forensic Science Laboratory* 11 (2010).

representative and that one cannot correlate or extrapolate the results to reality in order to provide support for firearms identification as a science.

As to the lack of credibility of the AFTE Theory of Identification, the Defendant asserts that this theory is not credible because it sets no objective parameters or guidelines for application (i.e., no definition of a "same" or "different" striation or how many markings make a match). The Defendant contends that the "sufficient agreement" needed to find a match between a suspect weapon and a bullet casing is determined only when a particular firearms examiner says so, without any set numerical or statistical basis for such a finding. As Mr. Tobin testified, no meaningful guidance or cutoff exists to indicate to examiners that a certain level of distinct subclass or individual characteristics exclude a particular firearm. A great many firearms have subclass carryover, or overwhelmingly similar markings due to the manufacturing process. With no guidance to ensure that the same process is followed or that individual markings are properly distinguished from subclass characteristics, any conclusions reached are too subjective and without scientific validity. The Defendant explains the long-standing practice of firearms identification by pointing to the "insular community" of firearms examiners, whose careers and income depend on the continuation and stability of the field. Tobin Rep. 4. Therefore, the Defendant asserts that firearm identification has no verified reliable repeatability or reproducibility, and cannot qualify as a science.

2. State's Argument

The State counters that no court has ever excluded firearm identification testimony or deemed it unreliable. State expert Dr. James Hamby, a firearms examiner since 1972 and current instructor at the International Forensic Science Laboratory and Training Centre, testified that the firearms examination process requires a two-year certification and multiple training

requirements. He provided that the multi-year training curriculum and peer-review process provides the baseline of firearms examination and has been formulated over decades of validation studies, evaluations, and study repetitions. Notably, he highlighted for the Court that only eight to ten groups of scientists challenge the firearms examination process and are in the minority of the scientific community.

The State also argues that the validation studies provide ample evidence to support firearms identification as a science. While the State admits, and this Court agrees, that improvements can made in line with the NAS and PCAST reports, the current validation studies and black-box study all support low error rates and affirm reliability and reproducibility. Indeed, the State provided this Court with a variety of studies and case law that examined such studies and found that admissibility was appropriate.

3. Firearms Examination Remains Generally Accepted and Reliable

The Court will agree with the State that the firearm and toolmark identification is still generally accepted and sufficiently reliable under the *Frye-Reed* standard. This Court must start from the premise specifically established in *Reed* that firearms examination is a reliable and valid forensic discipline. *Reed,* 283 Md. at 388, 391 A.2d at 371. ("If . . . a novel scientific process does achieve general acceptance in the scientific community, there will likely be as little dispute over its reliability as there is now concerning other areas of forensic science which have been deemed admissible under the Frye standard, such as blood tests, *ballistics tests*, etc." (emphasis added)). The Defendant has failed to sufficiently undermine its credibility to have the evidence excluded in its entirety.

The Defendant has failed to demonstrate that, after six decades, this practice is no longer widely accepted based on three reports that include individuals from outside the relevant

scientific community. *See Fleming,* 194 Md. App. at 99, 1 A.3d at 585; *Edwards v. State*, 198 Md. 132, 81 A.2d 631 (1951). As other courts have found, "despite its increasingly obvious limitations, toolmark identification evidence is relevant, reliable, and helpful" as long as it is offered

> (a) by a qualified examiner (b) who followed the AFTE theory (despite its subjectivity) and (c) who documents with notes, photographs, or sketches the conclusions reached in sufficient detail to permit (d) confirmation by a second qualified examiner of how an identification was reached (and, at trial, challenge by a defense expert if one has been engaged for this purpose), so long as (e) the examiner is prevented from making outlandish and unsupported pronouncements about the degree of certainty of his or her identification.
>
> *Willock*, 696 F. Supp. 2d at 569-70.

The Defendant argues that the relevant scientific community includes all statisticians, scientists, metallurgists, and mathematicians. The State asks the Court to largely restrict the relevant scientific community to the forensic examiners themselves. While this Court agrees that the relevant scientific community includes more than just practitioners, firearms examination still remains generally accepted within the scientific community. Indeed, as recently as 2016, the *Patterson* Court determined firearm and toolmark evidence was a "generally accepted" science and that "comparative microscopic matching is still generally accepted within the scientific community." *Patterson*, 229 Md. App. at 641, 146 A.3d 502.[3] Despite the recent challenges to the underlying methodology, the Court pointed out that the expert "would still [be] permitted to testify to 'a reasonable degree of certainty within his field of expertise'" *Id.* at 643, 146 A.3d at 503. *See also Glynn,* 578 F. Supp. 2d at 573 (finding that forensic examination is "sufficiently

[3] Notably, the court specifically stated that the cases cited by Patterson, which overlap with those cases cited by the defendant in the present case, were "not overwhelmingly helpful to [him]." *Id.* at 630 n.4, 146 A.3d at 501-02) (providing the holding in each case that found the evidence was admissible and widely accepted by the larger scientific community).

well-documented as to support a reasonable hypothesis of its validity") (citing Stephen G. Bunch & Douglas P. Murphy, *A Comprehensive Validity Study for the Forensic Examination of Cartridge Cases*, 35 *AFTE J.* 201 (2003); Yoshimitsu Ogihara et al., *Comparison of 5000 Consecutively Fired and Cartridge Cases from a .45 Caliber M1911A1 Pistol*, 15 *AFTE J.* 127 (1983); Erich D. Smith et al., *Cartridge Case and Bullet Comparison Validation Study with Firearms Submitted in Casework*, 36 *AFTE J.* 130 (2004)). In the year since this case was decided, no other studies demonstrating the unreliability of firearms examination have been brought to light.

This Court will also reject the Defendant's challenge to unreliable error rates. Proficiency testing from the Collaborative Testing Service (CTS) between 1978 and 1991 "suggest[ed] that the rate of false identification is less than 1%." *Taylor*, 663 F. Supp. 2d at 1177 (citing Grzybowski, et al., *supra* at 213). While the Court takes note of the Defendant's assertion that one crime lab had a 10% error rate, this lab had been under investigation due to its consistent failure to follow "essential standards" for accreditation. Nick Bundley, *Detroit Police Lab is Closed After Audit Finds Serious Errors in Many Cases,* THE NEW YORK TIMES (Sept. 25, 2008), http://www.nytimes.com/2008/09/26/us/26detroit.html. Such a high error rate has never since been replicated. Even the reports cited by the defense state that the error rate for false identifications is as low as 2.2%. PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY (PCAST): FORENSIC SCIENCE IN CRIMINAL COURTS: ENSURING SCIENTIFIC VALIDITY OF FEATURE COMPARISON Methods, 7 (2017) ("[A] 2014 study . . . conducted by the Ames laboratory, which reported an upper 95% confidence bound on the false-positive rate of 2.2%"). As such, this Court will agree with other jurisdictions that the lack of reliable error rates is an area ripe for cross examination, rather than a bar to the admissibility of the expert

testimony. *See Commonwealth v. Heang*, 458 Mass. 827, 850 (D. Mass. 2011) (holding that expert testimony is admissible as long as the jury heard testimony on the background and methodology of firearms examination and the defense had the opportunity to conduct an effective cross examination); s*ee also Green*, 405 F. Supp. 2d at 122 (finding the jury's ability to consider both error rates and cross examination weighed in favor of admitting the firearm examiner's testimony); *Chester*, No. 13-CR-007744, at 2.

Accordingly, this Court shall adopt the reasoning in *Fleming*, *Patterson*, and the federal courts to find that the underlying firearms methodology has baseline reliability and validity to be admitted under *Frye-Reed.* The defense may still exercise certain safeguards, such as ensuring foundational requirements for expert testimony are met, executing an effective cross examination, and presenting an opposing expert, in order to ensure the purported flaws in the practice are fully understood by the jury.

4. Identification Results in the Present Case

This Court does recognize the Defendant's concern that a firearms examination contains a largely "subjective nature of the matching analysis." *Monteiro*, 407 F. Supp. 2d at 355. However, this Court accounts for this issue in the same manner as other jurisdictions: by ensuring that "a firearms examiner [is] qualified through training, experience, and/or proficiency testing to provide expert testimony" and "follow[s] the established standards for intellectual rigor in the toolmark identification field." *Id.* Such standards included (1) documentation of the basis for the examiner's conclusions in the form of photographs, notes, or diagrams and (2) "peer review" of those conclusions by another trained examiner. *Id.* While subjective, these standards ensure conformity to industry standards that provide baseline reliability and validity.

In the present case, Scott McVeigh testified that he has been a firearms examiner for seven years at the Prince George's County Firearms Examination Unit Laboratory, which is accredited by the American Society for Crime Laboratory Directors and ANSI-ASQ National Accreditation Board. Mr. McVeigh has been a distinguished AFTE member since 2003, who has been trained in firearms identification and worked in the forensic sciences field since 1986. He provided the actions he took in the present case that were in line with the AFTE Theory of Identification and Crime Lab protocol, including shooting the suspect Taurus .38 Special revolver into a water tank and using a comparative microscopic analysis (CMS) to make a determination of the evidence. His findings[4] were affirmed by the peer-review process. Based on this testimony, the Court finds that Mr. McVeigh is qualified through his education and training to give expert testimony in the field of firearms examination and that the adherence to Crime Lab protocols, including peer review, indicate the validity of his findings such that they are admissible at trial.

C. Limiting the Standard of Expert Conclusions

However, this Court will restrict the standard of certainty to which the State's expert firearms examiner may testify." As the defense expert testified, due to the subjective nature of the practice, no person can testify to any level of practical certainty/impossibility, ballistic certainty, or scientific certainty that a suspect weapon matches certain bullet or casing striations. The Defendant raises concerns over such standards in previous cases, such as "to the exclusion of any other firearm in the world." *Patterson*, 229 Md. App. at 634, 146 A.3d at 498, He argues that the only standard to which an expert should be permitted to testify is that a suspect firearm

[4] Mr. McVeigh testified that he was provided two suspect handguns and six bullet fragments. He was only able to make an identification using five bullet fragments because the sixth piece was not suitable for analysis and given an inconclusive determination. Further, based on the right twist pattern and number of land and groove marks, Mr. McVeigh was able to rule out the Glock pistol as the firing weapon.

"cannot be excluded" as the possible firing weapon. He concludes that his opinions are shared with NAS, PCAST, the Department of Justice, and National Commission on Forensic Science (NCFS).

The State concedes that any expert in firearms identification should not be permitted to testify to an absolute degree of certainty or to the exclusion of any other firearm in the world. *See* U.S. Dep't of Commerce, Nat'l Comm'n on Forensic Science, *Recommendations to the Attorney General Regarding Use of the Term "Reasonable Scientific Certainty"* (Jan. 21, 2016). Although the State asserts that the expert's opinion should be unqualified, the State proffers the standard of mere "certainty" in order to qualify the expert's language if the Court should deem a standard appropriate.

Given these reservations, the Court rejects both the previous standard that allowed firearms examiners to make their conclusions "to the exclusion of every other firearm in the world," e.g., *Green*, 405 F. Supp. 2d at 124, and the Defendant's proposed "more likely than not" standard, *e.g., Glynn*, 578 F. Supp. 2d at 574 (ruling that the use of this standard was not an abuse of discretion by the trial court). Further, the Court will also reject any expert testimony to an "absolute" or "scientific" certainty. Rather, as long as the foundation for the opinion is properly established, the expert in the instant case will be permitted to give his opinion whether the five bullet fragments recovered from the murder scene fall into any of the AFTE Range of Conclusions. *See Diaz*, No. CR 05-00167 at *14; *Taylor*, 663 F. Supp. 2d at 1180; *Monteiro*, 407 F. Supp. 2d. at 375; *People v. Jones*, No. 08-CR-19575, 2015 IL App. (1st) 121016, at *7 (2015); *Heang*, 458 Mass. at 850; *People v. Luna*, 2013 IL App (1st) 072253, at par. 72; *People v. Robinson*, 2013 Il App (1st) 102476, par. 67; *People v. Safford*, 392 Ill. App. 3d 212 (2009).

CONCLUSION

Based on these reasons, the Court will allow the State to offer an expert witness in firearm and toolmark identification. Firearm and toolmark identification is still generally accepted in the relevant scientific community. However, any firearms examination expert will be prohibited from qualifying his or her examination with terms of absolute or scientific certainty.

IN THE CIRCUIT COURT FOR PRINCE GEORGE'S COUNTY, MARYLAND

STATE OF MARYLAND	*	
	*	
v.	*	Case No. CT12-1375X
KOBINA EBO ABRUQUAH	*	
Defendant.	*	

* * * * * * *

ORDER

This matter came before the Court on July 19, 2017, as a Motion *in Limine* to Exclude or Restrict Firearm or Toolmark Identification Testimony filed by the Defense. The State filed an Opposition to the Defendant's Motion *in Limine* on July 26, 2017. Both parties appeared before the Court on August 24, 2017, December 18, 2017, February 1, 12, 13, 2018, and March 12, 2018. Both sides presented various expert witnesses and oral arguments to challenge the validity of the underlying methodology of firearm and toolmark identification.

Upon consideration of Defendant's Motion to Exclude or Restrict Firearm or Toolmark Identification Testimony, the State's Opposition thereto, and the testimony made by the witnesses and counsel during the various hearings, and for the reasons articulated above, it is this 15 day of March, 2018, by the Circuit Court for Prince George's County, Maryland, hereby

ORDERED, that the Defendant's Motion to Exclude or Restrict Firearm or Toolmark Identification Testimony is **GRANTED IN PART** and **DENIED IN PART**; and it is further

ORDERED, that firearms and toolmark identification shall continue to be generally accepted within the relevant scientific community under the *Frye-Reed* standard; and it is further

ORDERED, that any firearm and toolmark identification expert testimony proffered by either side shall not be allowed to opine to the level of an "absolute certainty," "100% certainty," "scientific certainty," or "to the exclusion of any other firearm in the world" that the five bullets or projectiles were a match to the Defendant's gun; and it is further

ORDERED, that the defense be permitted to present the jury with a limited amount of evidence challenging the methods, protocols, and standard operating procedure employed by the firearms examiner presented by the State .

Judge Michael R. Pearson

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