COMMONWEALTH OF KENTUCKY
34TH JUDICIAL CIRCUIT
WHITLEY CIRCUIT COURT
INDICTMENT NO. 18-CR-00069
DIVISION I

COMMONWEALTH OF KENTUCKY **PLAINTIFF,**

VS.

PAUL OLIVER BROCK **DEFENDANT.**

ORDER

This matter came before the Court upon Defendant's Motion in Limine to Exclude the Testimony of Jennifer Owens' Firearms Examination. The Defendant argues, in limine, to exclude the testimony of Jennifer Owens through *Daubert*, alleging the foundational validity of firearms and toolmarks examination is insufficient to clear the hurdles imposed by *Daubert*. The Court conducted an evidentiary hearing, upon which it received the testimony of Greg Klees, Firearms Examiner with the Bureau of Alcohol, Tobacco, Firearms and Explosives and Dr. Michael J. Salyards from Compass Scientific Consulting, LLC. The Court, having heard the testimony of the witnesses, reviewed the exhibits submitted in conjunction with the hearing, having heard the arguments of counsel and read their respective briefs, having reviewed the entire record and being fully and sufficiently advised, does hereby **FIND** and **ORDER** as follows:

1. When it pertains to scientific and technical testimony, the Court must act as a gatekeeper to prevent the admission of unreliable, pseudoscientific evidence. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). First, the Court must determine at the outset whether the expert is proposing to testify to (1)

scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. This entails a preliminary assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to facts in issue;

2. In assessing the reliability of expert testimony or the science underpinning that testimony, the Court may consider: (1) Whether a theory or technique can be and has been tested; (2) Whether the theory or technique has been subjected to peer review and publication; (3) Whether, with respect to a particular technique, there is a high known or potential rate of error and whether there are standards controlling the technique's operation; and (4) Whether the theory or technique enjoys general acceptance within the relevant scientific, technical, or other specialized community *Id.*;

3. Greg Klees testified that firearms and toolmark examination is a science originating roughly in the 1920s. Klees explained that toolmark analysis is a scientific field in which metals are microscopically examined and the markings left on certain objects are compared to ascertain whether the markings are of sufficient agreement to match the to items to a common source. Klees testified that firearms are an extension of toolmark analysis in which the examiner examines bullets to see if they share common origin, or firearm. Firearms examinations involve the matching of bullets to a common firearm by examining class, subclass, and individual characteristics. Class characteristics are resemblances amongst firearms that will be present in all weapons of the same make and model, such as caliber. Subclass characteristics are marks produced incident to individual manufacturers from a

source when changes over time and therefore should be pe present on a group of firearms within a certain make or model produced at the same time and in the same place. Klees finally explained individual characteristics are random imperfections produced either during manufacture, use or condition of the gun which are unique to that particular firearm and distinguish that firearm vs. all others. Klees testified that the care, history, and use of the gun can all attribute to different individual characteristics to generate a unique signature left on bullets fired;

4. Klees testified that after a firearms examiner makes a match in the ATFE lab, the match is peer reviewed in house through three levels of review to ensure there are no errors in the methodology or final conclusion made;
5. Klees testified that firearms examination science is capable of testing and has been tested extensively. Klees cited to black box and confirmation studies performed in response to the 2016 PCAST report, further explaining that the foundational validity of firearm examination was confirmed and an error rate of roughly 1.6 – 2% was ascertained from the studies. Finally, Klees explained that firearms examination is subjected to peer review at not only the laboratory level, but in the academic community through confirmation studies, black box studies, white box studies, and review of scholarly works published in the field of firearms examination;
6. Dr. Salyards advanced three criticisms of the field of firearms examination relevant to this case: (1) the 2009 NAS Report and 2016 PCAST report call into question the foundational validity of firearms examinations; (2) the interpretive nature of individual toolmarks is too subjective in nature; and (3) there are different design

features of .38 caliber rounds, the differences of which are unknown to the examiner;

7. Klees testified that the 2009 NAS Report and 2016 PCAST Report have no acceptance within the relevant scientific community. He advised there have been more than 20 scientific studies performed since their release refuting the arguments advanced and that the DOJ has made no acceptance of their findings since their inception;
8. Klees testified that there is little subjectivity in firearms examination, but rather a series of standards adopted through research and training that are applied in a systematic fashion each time. While he conceded that some measure of subjective analysis is required in physically identifying characteristics, this does not render the scientific process invalid or even unreliable;
9. Klees finally testified that design features are immaterial to the analysis of a firearms examiner. Rather, the process of class, subclass, and individual characteristics is the methodology used to identify bullets to a common source;
10. Kentucky law has authorized the admission of ballistics testimony since 1948 in its decision in *Morris v. Commonwealth*, 208 S.W.2d 58 (1948);
11. The Supreme Court of Kentucky has further advised that the AFTE theory of identification permits a conclusion that two or more bullets are of common origin when the microscopic surface contours of the toolmarks are of sufficient agreement. *Garrett v. Commonwealth*, 534 S.W.3d 217 (Ky. 2017);
12. In adopting the analysis set forth in *United States v. Otero*, 849 F.Supp.2d 425 (D.N.J. 2012), the Supreme Court of Kentucky held that while the toolmark identification

procedures in firearm examination do involve some degree of subjective analysis and reliance upon the expertise and experience of the examiner, the methodology to make comparisons is reliable. Rather, the Supreme Court cautioned, the proper avenue for a Defendant to address their concerns about the methodology and reliability of firearms examination is through either cross-examination or production of the testimony of an opposing expert;

13. As a preliminary matter, it is apparent to the Court that the field of firearms examination and identification is indeed scientific knowledge that will assist the jury in assessing or determining facts at issue. Competing experts testified to dense scientific and technical information concerning the methodology, foundational validity, and conclusions of firearms examiners in the field. Clearly, this knowledge is technical or scientific knowledge that is best addressed through expert testimony;
14. *Garrett* squarely applies and binds this Court in its *Daubert* analysis. Through the testimony of the experts, it is apparent that the field of firearms examinations is capable of being studied and has been studied. Both experts cited opposing studies supporting their opinions in the matter. The first prong of *Daubert* is satisfied;
15. While Dr. Salyards is critical of the peer review process employed by the NAFTE organization, it is undisputed that peer review and publications exist *ad nauseum* on the topic of firearms examination. Most compelling to the Court is the lack of adoption of the principles advanced by the 2016 PCAST report and the remaining adherence to existing principles and standards concerning firearms exams. The second prong of *Daubert* is fulfilled;

16. Klees alluded to multiple studies ascertaining the error rate in firearms examiners. This Court is tasked to determine whether there is a high or potentially known rate of error in this field: 1.6 – 2% is not a high error rate to trigger exclusion under *Daubert*. This topic, while ripe for cross examination, is not a basis for categorical disapproval to the field of firearms examination. The third prong of *Daubert* is met;
17. Finally, while the experts disagreed on the acceptance of firearms examination in the relevant scientific community, the Court must agree with Klees' assertion that firearms examinations do enjoy general acceptance within its relevant scientific community. Klees testified that the ATFE, FBI, DOJ, and a litany of scientific communities all endorse the methodology utilized in matching ballistics employed in this case. Dr. Salyards did not identify any governmental entity or reputable scientific community who disagrees or refutes these principles. Thus, the fourth and final prong of *Daubert* is satisfied.
18. Considering the binding precedent concerning firearms examinations, the testimony offered to the Court, and the arguments of counsel, the Defendant's Motion to Exclude Jennifer Owens' testimony is **OVERRULED**.

So Ordered, this 30 day of July, 2021.

HON. JUDGE DAN BALLOU
WHITLEY CIRCUIT COURT, DIVISION I

DISTRIBUTION:
Commonwealth's Attorney (✓)
Counsel for the Defendant (✓)

GWB/MS
CLERK'S INITIALS DATE

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