UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF INDIANA
HAMMOND DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	CAUSE NO. 2:21-CR-71-PPS-APR
	)	
HAILEY GIST-HOLDEN,	)	
	)	
Defendant.	)	

OPINION AND ORDER

This case involves an armed robbery of the First Midwest Bank in Gary, Indiana, which resulted in the shooting death of a security guard. Trial is set for October 17, 2022. The defendant, Hailey Gist-Holden, representing himself, has moved to exclude expert testimony of firearms identification (or toolmark identification). [DE 145.] The government's forensic examiner intends to testify that he used tool mark analysis to determine that spent shell casings recovered from the bank and casings found in Gist-Holden's home were cycled through the same firearm. For the reasons set forth below, this testimony is both reliable and relevant and is therefore admissible under Federal Rule of Evidence 702. Accordingly, Gist-Holden's motion will be denied.

Background

The general facts of this case have already been summarized at length in my opinions denying Gist-Holden's motion to suppress [DE 252] and denying his motions for a Franks hearing and motions to dismiss [DE 118], so they won't be repeated here.

For present purposes it is enough to say that spent bullet casings were recovered at the scene of the crime. Officers found the shell casings outside the bank, and some inside the bank as well. In addition, a search warrant was obtained for Gist-Holden's home at 4656 Buchanan Street, in Gary, Indiana, on June 16, 2021. At the Buchanan house, agents recovered a Shoot Point Blank bag that contained 19 rounds of Fiocchi ammunition, two .40 caliber rounds, 2 empty rifle cartridges, 3 empty handgun cartridges, and another cartridge casing from a different spot in the home. [DE 174 at 2.]

This motion seeks to bar the testimony of Scott Owens, a forensic examiner at the Indiana State Police Laboratory. Owens testified at a *Daubert* hearing I held on September 9, 2022.[1] He explained his qualifications, methodology, and how he used tool mark analysis to determine that 5 casings from the bank and from Gist-Holden's home were "cycled through" the same firearm. Note that I'm saying "cycled through" the same firearm as opposed to "fired from" the same firearm. This is by design because, as Owens explained during the hearing, although all 5 of the cartridges were fired, he could not match the firing pin component of the cartridges, and therefore could not definitively conclude that they were fired out of the same weapon. But he did determine that they were "cycled through" the same firearm. According to Owens, cycling is manually loading and unloading a firearm, not necessarily firing the ammunition. He gave the example of transporting or cleaning a firearm, and unloading

[1] No party has ordered a transcript for this hearing, so a final transcript was not at the Court's disposal. The testimony presented at the hearing is therefore based on my notes from the hearing.

it manually - that act can leave marks on the cartridge case such as ejector and extractor feeding marks.

Discussion

Federal Rule of Evidence 702, which governs expert testimony, provides the following:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

F.R.E. 702. Rule 702 was passed in response to *Daubert v. Merrell Dow Pharms., Inc.*, where the Supreme Court fashioned a two-prong test of admissibility for expert evidence. *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592 (1993). To be admissible, evidence must be both relevant and reliable. *Id.* at 589; *see also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152 (1999) (noting the objective of court's gatekeeping requirement is to ensure reliability and relevancy of expert testimony); *C.W. ex rel. Wood v. Textron, Inc.*, 807 F.3d 827, 834 (7th Cir. 2015) (trial judges act as gatekeepers to screen expert evidence for relevance and reliability).

In performing this gatekeeping role, I must determine: (1) "whether the witness is qualified"; (2) "whether the expert's methodology is scientifically reliable"; and (3) "whether the testimony will assist the trier of fact to understand the evidence or to

determine a fact in issue." *Myers v. Illinois Cent. R.R. Co.*, 629 F.3d 639, 644 (7th Cir. 2010) (internal quotation marks omitted). The proponent of the expert's testimony bears the burden of demonstrating the testimony satisfies the *Daubert* standard by a preponderance of the evidence. *See Gopolratnam v. Hewlett-Packard Co.*, 877 F.3d 771, 782 (7th Cir. 2017). Also noteworthy is the fact that "[t]he rejection of expert testimony is the exception rather than the rule, and the trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system." *See Loeffel Steel Products, Inc. v. Delta Brands, Inc.*, 372 F.Supp.2d 1104, 1110 (N.D. Ill. 2005) (quotation omitted).

The particular expert testimony being challenged here is toolmark identification customarily given by firearms experts. Here's how the discipline was explained by a district judge in New Jersey:

> Toolmark identification is based on the theory that tools used in the manufacture of a firearm leave distinct marks on various firearm components, such as the barrel, breech face or firing pin. The theory further posits that the marks are individualized to a particular firearm through changes the tool undergoes each time it cuts and scrapes metal to create an item in the production of the weapon. Toolmark identification thus rests on the premise that any two manufactured products, even those produced consecutively off the same production line, will bear microscopically different marks. With regard to firearms, these toolmarks are transferred to the surface of a bullet or shell casing in the process of firearm discharge. Depending on the tool and type of impact it makes on the bullet or casing, these surface marks consist of either contour scratch lines, known as striations (or striae), or impressions.

United States v. Otero, 849 F.Supp.2d 425, 428 (D. N.J. 2012). These microscopic markings can be compared to determine if the casings were cycled through or fired by the same firearm. According to the theory of toolmark identification espoused by the Association

of Firearms and Toolmark Examiners ("AFTE"), individual characteristics "are unique to that tool and distinguish it from all other tools." *Theory of Identification as it Relates to Toolmarks, AFTE Journal*, Vol. 30, No. 1, Winter 1998, at 87.

AFTE is the international professional organization for the practitioners of firearm and toolmark identification. As noted by the court in the recent case of *United States v. Lee*, No. 19 C 641, 2022 WL 3586164, at *2 (N.D. Ill. Aug. 22, 2022):

> The 'AFTE theory' is a theory of toolmark identification adopted by the AFTE, and provides that an examiner comparing two pieces of ballistics may reach one of four conclusions: (1) identification, meaning the pieces of evidence come from the same source; (2) elimination, meaning that they came from different sources; (3) inconclusive, meaning that there is not enough evidence for an examiner to make a determination; and (4) unsuitable, which means that the recovered evidence lacks discernable class and individual characteristics.

"An identification is made when the individual characteristics of the surface contours on two toolmarks are in sufficient agreement." *Id.* Owens used the AFTE theory of identification in reaching his conclusions in this case.

Before I dive into analyzing whether Owens' testimony in particular comports with *Daubert* by being reliable and relevant, I want to look at the AFTE theory of identification overall. The AFTE methodology is generally accepted by federal courts, and has repeatedly been found admissible under *Daubert* and Rule 702. As noted by the court in *Lee*, "[n]o district court has ever ruled toolmark analysis testimony is inadmissible under *Daubert*." *Lee*, 2022 WL 3586164, at *2. Indeed, the Seventh Circuit has recently authorized such testimony. *See United States v. Brown*, 973 F.3d 667, 702-03

(7th Cir. 2020). In *Brown*, the court noted that toolmark analysis is a discipline "used to determine whether a bullet or casing was fired from a particular firearm" or "whether two bullets or casings were fired from the same firearm." While *Brown* noted defendants' arguments opposing toolmark analysis had "respectable grounding,"ultimately, the Seventh Circuit decided it was within the district court's discretion to submit the evidence for the jury's consideration and allow cross-examination, not exclusion of the evidence altogether, to be manner in which the testimony could be challenged. *Id.* at 703-04.

The one case Gist-Holden cited in his motion is *United States v. Monteiro*, 407 F.Supp.2d 351 (D. Mass. 2006). [DE 145 at 3-4.] This older case takes an exhaustive look at toolmark identification (and gives a primer on firearm identification replete with a diagram of semi-automatic handgun components if the reader is interested). *Id.* at 359-61. Although that court acknowledged there had been some challenges to the methodology in the past including by some scientific articles, even *Monteiro* concluded that "[b]ased on the factors outlined in *Daubert* and *Kumho Tire*, the Court concludes that the methodology of firearms identification is sufficiently reliable." *Id.* at 362-63, 372.

Gist-Holden also cites *Monteiro* for the proposition that "[t]o even form a 'match' theory for firearms identification (toolmark identification) an examiner 'must' test-fire ammunition from a recovered gun and use a microscope to compare the spent ammunition with the ammunition recovered from a crime scene." [DE 145 at 3.] But *Monteiro* makes no proclamation that a gun *must* be test-fired to make an identification.

Rather, it stated that "a firearms examiner *presented with a handgun* and spent cartridge cases will test fire the weapon using the same type of ammunition as that recovered in the case." *Monteiro*, 407 F.Supp.2d at 361 (emphasis added). In this case, the gun allegedly used by Gist-Holden was never recovered. Owens testified that if he was given a gun, he would have test-fired it; however, he lacked the ability to do so in this case because the weapon allegedly possessed by Gist-Holden was never found.

The much more recent case of *Lee* also acknowledged that there has been some criticisms of toolmark analysis, including a 2008 report by the National Research Council (NRC) which concluded that "the validity of the fundamental assumptions of uniqueness and reproducibility of firearm-related toolmarks has not been fully demonstrated," and a 2016 report published by the President's Council of Advisors on Science and Technology (PCAST) which cast doubt on the reliability of toolmark identification. *Lee*, 2022 WL 3586164, at *2. However, *Lee* importantly recognized, that "since the issuance of the NRC and PCAST reports, courts unanimously continue to allow firearms identification testimony, finding that cross-examination, as opposed to exclusion, is the appropriate remedy to counter the criticisms." *Id.* at *2.

Having reviewed the case law and scientific information available on the issue of toolmark analysis, I choose to follow other courts' widespread acceptance of the AFTE methodology for toolmark identification, and therefore find that Owens' proposed testimony meets the *Daubert* standards.

Let's begin, as required by Rule 702, with a review of Owens' qualifications. Owens started working at the Indiana State Police Laboratory in 2002. In 2014, he became a Forensic Scientist in the Forensic Firearms Identification Unit, and has been in that discipline ever since. [Owens c.v., DE 174-1.] He has extensive training in toolmark identification, and does continuing education. He has been involved in approximately 1,000 court cases and testified 19 times. Owens also takes regular proficiency tests and claims he has not made an error on any exam. He is certified by the American Board of Criminalistics, Comprehensive Criminalistics. [DE 174-1 at 9.] In sum, Owens is well qualified as an expert in firearms and more particularly in the identification of firearm toolmarks, and Gist-Holden does not seriously contend otherwise.

Additionally, Owens' scientific methodology is reliable. The method has been repeatedly tested. *Lee*, 2022 WL 3586164, at *2. "The literature shows that the many studies demonstrating the uniqueness and reproducibility of firearms toolmarks have been conducted." *Otero*, 849 F.Supp.2d at 432; *see also Brown*, 973 F.3d at 704 ("The AFTE method has been tested and subjected to peer review."); *United States v. Ashburn*, 88 F.Supp.3d 239, 245 (E.D.N.Y. 2015) ("the AFTE methodology has been repeatedly tested"). Second, the rate of error is relatively low. Owens testified that the error rate of false positive with the AFTE method was less than 2 percent. As the Seventh Circuit recognized, "[a]lthough the error rate of this method varies slightly from study to study, overall it is low – in the single digits – and as the district court observed, sometimes better than algorithms developed by scientists."). *Brown*, 973 F.3d at 704.

Although Gist-Holden was suspicious that Owens had not calculated his individual error rate, Owens candidly explained during the hearing that he really could not calculate his personal error rate because the real truth is unknown and cannot be proven. Also, the AFTE method has been subjected to peer review, and at least three peer-reviewed journals have published studies relating to the AFTE methods: the AFTE Journal, the Journal of Forensic Sciences, and the Journal of Forensic Identification. *Lee*, 2022 WL 3586164, at *3.

In looking at the work and analysis Owens himself performed in this case, he also used a reliable methodology. He testified that in addition to following the AFTE methodology, the Indiana State Police also has a controlling document detailing test methods which he followed. Industry standards for firearm and toolmark identification "generally require an examiner to document in detail, through note-taking and photographs, the basis for his findings." *United States v. Taylor*, 663 F.Supp.2d 1170, 1176 (D. N.M. 2009). At the hearing, Owens described in detail the five casings he received, how he reviewed them in a side by side microscopic comparison to see the degree of similarity of the extractor marks and tool marks, and he took notes and pictures of his process. He determined there was an agreement of class characteristics (caliber, firing pin impression shape) and sufficient agreement of the individual characteristics (the extractor marks on the rim and groove and tool marks on the head of the casings) between casings found at the bank and those found at Gist-Holden's home. [DE 174 at 5-6.] And Owens concluded that the casings found at the bank were

cycled through the same firearm as the casings found at Gist-Holden's home. *Id.* Importantly, Owens testified that his work was reviewed and verified by another examiner in this case, who agreed with his conclusion.

Not only is this testimony helpful to the jury, but it is also highly relevant. As I mentioned before, the weapon allegedly used by Gist-Holden at the scene of the crime to shoot the security guard was never recovered. The government tells me there will be evidence that Gist-Holden destroyed the weapon. It would obviously be relevant for a fact-finder to be presented with evidence of casings found at Gist-Holden's house and casings found at the scene having been cycled through the same gun.

To the extent Gist-Holden disagrees with Owens' opinion, "the key to the [Daubert] gate is not the ultimate correctness of the expert's conclusions. Instead, it is the soundness and care with which the expert arrived at [his] opinion." *Schultz v. Akzo Nobel Paints, LLC*, 721 F.3d 426, 431 (7th Cir. 2013). It is up to the jury to be the essential arbiter of the weight and credibility of such testimony. *Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 765 (7th Cir. 2013). Gist-Holden is free to cross-examine Owens at trial on any of the concerns he voiced during the hearing (including where the casings were recovered from, the markings on them, and Owens' inability to determine they were actually fired by the same weapon). *See Daubert*, 509 U.S. at 596 ("[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence."). These are "issues that [can] be raised on cross-examination. These

arguments go to the weight of the evidence, not its admissibility. Expert testimony is still testimony, not irrefutable fact, and its ultimate persuasive power is for the jury to decide." *Brown*, 973 F.3d at 704.

Owens' opinions are both relevant and reliable; and therefore, admissible.

Conclusion

For the above referenced reasons, Defendant Gist-Holden's Motion to Suppress Firearms Identification (Toolmark Identification) and Exclude Expert Testimony Pursuant to F.R.E. 702 [DE 145] is **DENIED**.

SO ORDERED.

ENTERED: September 19, 2022.

/s/ Philip P. Simon
PHILIP P. SIMON, JUDGE
UNITED STATES DISTRICT COURT