

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

UNITED STATES OF AMERICA)	
)	
)	
v.)	CRIMINAL NO. 03-10329-PBS
)	
AMANDO MONTEIRO,)	
VALDIR FERNANDES,)	
ANGELO BRANDAO,)	
BRIMA WURIE,)	
LUIS RODRIGUES,)	
MANUEL LOPES,)	
)	
Defendants.)	

MEMORANDUM AND ORDER

November 28, 2005

Saris, U.S.D.J.

I. INTRODUCTION

Pursuant to Fed. R. Evid. 702, defendants seek to exclude expert testimony purporting to match cartridge casings found at several crime scenes to firearms linked to defendants. In particular, defendants seek to exclude the testimony of Sgt. Douglas Weddleton of the Massachusetts State Police, who performed toolmark examinations on cartridge casings found at the scenes of the shooting of Dinho Fernandes and the attempted shootings of Alcides DePina and Antonio Diaz. Defendants argue (1) that Sgt. Weddleton is not qualified as an expert in firearms identification; (2) that the standard methodology of firearms identification is unreliable under Daubert v. Merrell Dow, 509

U.S. 579 (1993); (3) even if the standard methodology of firearms identification is reliable, Sgt. Weddleton did not apply that methodology adequately; and (4) in any event, with respect to the FEG 9 mm., the use of replacement parts rendered the match unreliable.

After a six-day Daubert evidentiary hearing, this Court holds that Weddleton is qualified through training, experience, and proficiency testing to provide expert testimony. However, Sgt. Weddleton's proffered testimony is inadmissible under Rule 702 because he did not follow the established standards in the toolmark identification field with respect to documentation and peer review of his results. The government shall have two weeks to meet these standards and provide the defense with necessary documentation and peer review of Sgt. Weddleton's results.

II. DISCUSSION

A. The Court's Gatekeeper Role Under Daubert and Kumho Tire

The admission of expert evidence is governed by Fed. R. Evid. 702, which codified the Supreme Court's holding in Daubert v. Merrell Dow and its progeny. See United States v. Diaz, 300 F.3d 66, 73 (1st Cir. 2002); see also Fed. R. Evid. 702 advisory committee's note. Rule 702 states:

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, if (1) the testimony is

based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702.

The trial court must determine whether the expert is qualified and whether the expert's testimony "both rests on a reliable foundation and is relevant to the task at hand." Daubert, 509 U.S. at 597; Diaz, 300 F.3d at 73 ("[A] proposed expert witness must be sufficiently qualified to assist the trier of fact, and [] his or her expert testimony must be relevant to the task at hand and rest on a reliable basis."). Because "the admissibility of all expert testimony is governed by the principles of Rule 104(a)," the proponents of the expert testimony must establish these matters by a preponderance of the evidence. Fed. R. Evid. 702 advisory committee's note (citing Bourjaily v. United States, 483 U.S. 171 (1987)); see also Moore v. Ashland Chem., Inc., 151 F.3d 269, 276 (5th Cir. 1998).

The government suggests that because toolmark identification evidence has been deemed admissible by many other courts, the burden of proving such evidence to be unreliable should shift to the defendants. (Gov't Resp. to Defs.' Mot. in Limine 8.) However, because reliability under Daubert is among the preliminary inquiries a court must address under Fed. R. Evid. 104(a), the burden of proof with respect to reliability remains on the proponent of the evidence. See Daubert, 509 U.S. at 593

n.10; Moore, 151 F.3d at 276 ("The proponent need not prove to the judge that the expert's testimony is correct, but she must prove by a preponderance of the evidence that the testimony is reliable.").

First, The Court must ensure that the witness is qualified to offer an expert opinion. Poulis-Minott v. Smith, 388 F.3d 354, 359 (1st Cir. 2004). Next, the Court must determine whether all proffered expert testimony is sufficiently reliable to be admitted, whether "scientific" or not.¹ See Kumho Tire Co. v. Carmichael, 526 U.S. 137, 147 (1999) (noting that "[t]he trial judge's effort to assure that the specialized testimony is reliable and relevant can help the jury evaluate that [testimony], whether the testimony reflects scientific, technical, or other specialized knowledge."). The Court must make a determination as to whether "the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue." Daubert, 509 U.S. at 592-93; Gen. Elec. Co. v. Joiner, 522 U.S. 136, 142 (1997). Daubert itself listed four factors which should guide judges in this determination: (1) whether the theory or technique can be and has been tested; (2)

¹ Relevance is not an issue in this case. If Sgt. Weddleton can reliably testify that the various recovered cartridge casings came from the defendants' firearms, it is highly relevant to guilt or innocence.

whether the technique has been subject to peer review and publication; (3) the technique's known or potential rate of error; and (4) the level of the theory's or technique's acceptance within the relevant discipline. Daubert, 509 U.S. at 593-94. "These factors, however, are not definitive or exhaustive, and the trial judge enjoys broad latitude to use other factors to evaluate reliability." United States v. Mooney, 315 F.3d 54, 62 (1st Cir. 2002) (citing Kumho Tire, 526 U.S. at 153).

Once a court has determined that the expert's methodology is valid generally, it must query "whether those principles and methods have been properly applied to the facts of the case." Fed. R. Evid. 702 advisory committee's note. "In other words, Rule 702, as visualized through the Daubert prism, 'requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility.'" Ruiz-Troche v. Pepsi Cola, 161 F.3d 77, 81 (1st Cir. 1998) (quoting Daubert, 509 U.S. at 592). As such, this Court must evaluate the reliability of not only the general field of toolmark identification but also as applied by Sgt. Weddleton in this case.

The Court's vigilant exercise of this gatekeeper role is critical because of the latitude given to expert witnesses to express their opinions on matters about which they have no firsthand knowledge, and because an expert's testimony may be

given greater weight by the jury due to the expert's background and approach. See Daubert, 609 U.S. at 595; United States v. Hines, 55 F. Supp. 2d 62, 64 (D. Mass. 1999) (noting that "a certain patina attaches to an expert's testimony unlike any other witness: this is 'science,' a professional's judgment, the jury may think, and give more credence to the testimony than it may deserve.").

The Court must, however, keep in mind the Supreme Court's admonition that, "[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." Daubert, 509 U.S. at 596; see also 4 Joseph M. McLaughlin, Jack B. Weinstein & Margaret A. Berger, Weinstein's Federal Evidence § 702.02[5], at 702-20 (2d ed. 2005) ("Trial courts should be aware of the curative powers of the adversary system when faced with an objection that is solely on the basis of confusion."). Furthermore, the Court must bear in mind that:

Daubert does not require that a party who proffers expert testimony carry the burden of proving to the judge that the expert's assessment of the situation is correct. As long as an expert's scientific testimony rests upon "good grounds, based on what is known," Daubert, 509 U.S. at 590 (internal quotation marks omitted), it should be tested by the adversary process -- competing expert testimony and active cross-examination -- rather than excluded from jurors' scrutiny for fear that they will not grasp its complexities or satisfactorily weigh its inadequacies. In short, Daubert neither requires nor empowers trial courts to determine which of several

competing scientific theories has the best provenance. It demands only that the proponent of the evidence show that the expert's conclusion has been arrived at in a scientifically sound and methodologically reliable fashion.

Ruiz-Troche, 161 F.3d at 85 (quoting Daubert, 509 U.S. at 590) (internal citations omitted). It is with these principles in mind that the Court assesses the multi-level objection by the defendants.

B. Qualifications

Fed. R. Evid. 702 requires the judge to ensure that the proposed expert witness is qualified by "knowledge, skill, experience, training, or education." See also Poullis-Minott, 388 F.3d at 359 ("It is the responsibility of the trial judge to act as gatekeeper and ensure that the expert is qualified before admitting expert testimony."). "It is well-settled that 'trial judges have broad discretionary powers in determining the qualification, and thus, admissibility, of expert witnesses.'" Diefenbach v. Sheridan Transp., 229 F.3d 27, 30 (1st Cir. 2000) (quoting Richmond Steel, Inc. v. Puerto Rico Am. Ins. Co., 954 F.2d 19, 20 (1st Cir. 1992)).

Although Sgt. Weddleton has not yet attained a college degree (he is still taking courses), education is not the sine qua non of qualification as an expert witness. See Fed. R. Evid. 702 advisory committee's note (noting that the "text of Rule 702

expressly contemplates that an expert may be qualified on the basis of experience"); McLaughlin, et al., supra, at § 702.04[1][a]. See also Poulis-Minott, 388 F.3d at 360 (affirming trial court's allowing testimony from a fishing boat captain as to the ability of a captain to respond to certain emergencies under the circumstances). Sgt. Weddleton does have significant training and experience as a firearm examiner. A former highway patrolman, Sgt. Weddleton was transferred to the firearms identification unit in 1993. He then underwent on-the-job training in firearms identification. (Daubert Hr'g Tr. 33, Oct. 28, 2005.)

To be sure, Sgt. Weddleton apparently has no formal scientific training, is neither certified by, nor is he a member of any professional organizations, and he had not undertaken any proficiency testing at the time he performed the tests at issue in this case. (Daubert Hr'g Tr. 33-35, Oct. 28, 2005.) However, he has performed hundreds of such examinations, and is, by the standard in the field, qualified. Furthermore, the government introduced evidence that Sgt. Weddleton took a nationally administered proficiency test in July 2005 and passed. (Daubert Hr'g Tr. 95, Oct. 27, 2005.) Although the American Society of Crime Laboratory Directors (ASCLD) lists a bachelor's degree with science courses as a "desirable" qualification for firearm examiners, it does not list it as "essential." American Society

of Crime Laboratory Directors, Laboratory Accreditation Board Manual, 29 (1997) (Ex. 49).

That Sgt. Weddleton is qualified, however, does not relieve the government of its burden of proof that his methodology in this particular case was reliable and that the general methodology of toolmark identification passes muster under Daubert.

C. The Standard in the Field

At the Daubert hearing, the government offered the testimony of Special Agent Timothy Curtis, operations officer for the forensic laboratories at the Bureau of Alcohol, Tobacco, Firearms, and Explosives in Maryland. I find that Special Agent Curtis was qualified in toolmark identification and credible. Special Agent Curtis described the prevailing and established standard of reliability in the field of toolmark identification, with which Sgt. Weddleton's examination must comport. See In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 745 (3d Cir. 1994) (explaining that "any step that renders the analysis unreliable . . . renders the expert's testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology."). Sgt. Weddleton's examination falls short of the mark in two major areas: documentation and peer review.

1. Documentation

With respect to documentation, Special Agent Curtis indicated that the guidelines of the Association of Firearm and Tool Mark Examiners (AFTE) require examiners to document identifications by notes, sketches, or photographs. (Daubert Hr'g Tr. 43-4, Sept. 16, 2005.)²

Sgt. Weddleton did not make any sketches or take any photographs, so the question is whether his notes provide adequate documentation of the identification. (Daubert Hr'g Tr. 65, 72, Oct. 28, 2005.) The three reports of identifications in this case, entered as Exhibits 38, 40, and 41, contain no description of what led Sgt. Weddleton to his conclusions. Indeed, all the reports indicate is that there was a "positive ID." In response to the Court's inquiry as to what would constitute sufficient documentation of a match under current guidelines, Special Agent Curtis indicated that in lieu of a picture the examiner should take notes as to which markings on the cartridge case caused the examiner to declare a match. (Daubert Hr'g Tr. 46-7, Sept. 16 2005.) As one firearms examiner indicated in the AFTE Journal in 2003:

In other words, for our work to be valid, it must be verifiable to other examiners. This means that other examiners must be able to repeat the work and come to the

² Although the AFTE guidelines to which Special Agent Curtis referred were not offered into evidence, the Court accepts as credible his testimony that the standard in the field is for the examiner to document his or her findings through the use of notes, sketches, or photographs.

same conclusions. Therefore, the data that we gather should provide a well-defined "roadmap" as to what experiments we performed to answer the question(s) posed, what data was gathered, and a clear demonstration of the evidence from which we supported our conclusion(s). This mechanism of communication among scientists is a substantial part of the process of verification.

Bruce Moran, Photo Documentation of Toolmark Identifications - An Argument in Support, 35 AFTE J. 174, 181 (2003) (Ex. 14).

Although that article does not speak directly to AFTE guidelines, that language corresponds to the purpose of documentation as described by Special Agent Curtis. Furthermore, ASCLD states in its Laboratory Accreditation Board Manual, excerpts of which were introduced as Exhibit 49 in the evidentiary hearing, that "documentation to support conclusions must be such that in the absence of the examiner, another competent examiner or supervisor could evaluate what was done and interpret the data." American Society of Crime Laboratory Directors, Laboratory Accreditation Board Manual, 29 (1997) (Ex. 49). Even Sgt. Weddleton seems to acknowledge that current standards would require more description of his examination than he provided in this case. (Daubert Hr'g Tr. 78, Oct. 28, 2005.)

Until the basis for the identification is described in such a way that the procedure performed by Sgt. Weddleton is reproducible and verifiable, it is inadmissible under Rule 702.

2. Peer Review

Special Agent Curtis also indicated that it was the standard

in the field to have a second examiner independently review the findings of the first examiner. (Daubert Hr'g Tr. 46, Sept. 16, 2005 ("Once an examiner does his examinations, if they have a second person do technical review of it, that helps cut down on . . . any errors being performed . . . during that examination.")) On cross-examination, Special Agent Curtis reiterated that the standard in the field would be to have a second examiner verify a match. (Daubert Hr'g Tr. 33, Oct. 27, 2005.) Moreover, the definitive treatise in the field indicates that a second examiner must review the first examiner's work and conclusions. Julian S. Hatcher, Frank J. Jury & Jac Weller, Firearms Investigation, Identification, and Evidence 383 (2d ed. 1957) ("A positive match should be confirmed by a second examination. The usual laboratory personnel should check the comparison."); see also Richard Grzybowski et al., Firearm/Toolmark Identification: Passing the Reliability Test Under Federal and State Evidentiary Standards, 35 AFTE J. 209, 219 (2003) (Ex. 18) (noting that ASCLD requires peer and administrative review of an examiner's work). The Massachusetts State Police expert who testified at the Daubert hearing, Mary Kate McGilvray, agreed. (Daubert Hr'g Tr. 25, Oct. 28, 2005.)

There is no evidence that Sgt. Weddleton had an independent second examiner from his lab review his work or conclusions in accordance with the generally accepted standard in the field.

(Daubert Hr'g Tr. 73, Oct. 28, 2005.) This is particularly important since Weddleton used replacement parts when test-firing the FEG FP 9 mm. firearm. Until Sgt. Weddleton's work has been peer reviewed and his conclusions verified, his testimony is inadmissible under Rule 702.

The government has indicated its intention to have Sgt. Weddleton's work reviewed by additional expert witnesses prior to trial and to have those experts testify at trial. (Docket No. 1094.) Review and verification of Sgt. Weddleton's results by a second qualified examiner, and proper documentation of the results of both that review and Sgt. Weddleton's original review, will render Sgt. Weddleton's testimony admissible under Rule 702.

D. Underlying Methodology of Firearms Identification

A more complete opinion will follow as to defendants' broad-brush attack on the methodology of toolmark identification. In short, the Court finds that the scientific principle underlying toolmark identification, that each firearm leaves unique breech face markings on spent cartridge casings, is reliable. The opinions of a qualified expert in the field whose examination comports with the established standard in the field will be admissible in some form.

Defendants, along with their expert Mr. David LaMagna, attack this methodology on numerous grounds. The criticism that gives me the greatest pause is the evidence that there is no

recognized standard for evaluating how many breech face markings must line up before the examiner may declare a match. All parties agree that the standard for determining a match is subjective, and this notion is confirmed by the AFTE Theory of Identification (Ex. 24), which states, in part, that "[c]urrently the interpretation/identification is subjective in nature, founded on scientific principles and based on the examiner's training and experience." Furthermore, although the AFTE Theory indicates that "caution should be exercised in distinguishing subclass characteristics from individual characteristics," it does not offer any guidance for how an examiner should do that outside of relying on his or her individual training and experience. (Ex. 24.) Because of the subjective nature of toolmark identification, the Court retains under advisement the question of the manner in which such a qualified expert will be allowed to express his or her opinion.

E. Replacement Parts

Defendants have attacked specifically Sgt. Weddleton's identification of cartridge cases found near the scene of the fatal shooting of Dinho Fernandes as coming from a 9 mm. FEG FP 9 Browning Hi-Power handgun. Defendants allege that Sgt. Weddleton's identification is unreliable because he test-fired the firearm in question only after substantially reconstructing it with replacement parts. Among other parts, Sgt. Weddleton

replaced the firing pin, recoil spring, barrel, and trigger lever (but, significantly, not the breech face) before test firing the firearm. After test-firing the gun, Sgt. Weddleton compared the spent cartridge cases with those found near the scene of the Fernandes shooting and declared them a match. Defendants argue that the use of replacement parts, particularly the recoil spring, would so affect the marks transferred from the breech face to the cartridge case as to make any identification unreliable. However, defense expert LaMagna used different ammunition than Sgt. Weddleton, undermining his conclusions that the use of a different recoil spring would substantially affect the breech face markings. Special Agent Curtis disagreed with LaMagna's analysis, contending that the replacement parts would have no impact on the breech face marks transferred to the cartridge casings in this case. (Daubert Hr'g Tr. 61, Sept. 16, 2005.)

In short, the Court does not find evaluating these questions to be beyond the capability of the average juror. Subject to any limitations the Court places on how the opinion is expressed (see supra, part II.D.), Sgt. Weddleton may state his observations regarding the comparison of cartridge cases allegedly fired by the FEG FP 9 mm. Extensive cross-examination of the government's experts will surely highlight the alleged shortcomings of this procedure for the jury. See Daubert, 509 U.S. at 596 (noting

that "vigorous cross examination" is among that "traditional and appropriate means of attacking shaky but admissible evidence").

ORDER

As outlined in this opinion, defendants' motion in limine to exclude ballistics evidence is **ALLOWED** in part (Docket No. 940). The government has two weeks to ensure that its proffered firearms identification testimony comports with the established standards in the field. The Court retains the motion under advisement for a fuller opinion with regard to the reliability of the standard methodology in the field.

S/PATTI B. SARIS
United States District Judge