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6 **IN THE UNITED STATES DISTRICT COURT**
7 **FOR THE DISTRICT OF ARIZONA**
8

9 Leslie A. Merritt, Jr.,

10 Plaintiff,

11 v.

12 State of Arizona, et al.,

13 Defendants.
14
15

No. CV-17-04540-PHX-DGC

ORDER

16 Plaintiff moves the Court to reconsider its ruling that DPS criminalist Liza Peloza
17 may testify about the ballistics test she performed as documented in her report. Doc. 390.
18 The motion is fully briefed (Docs. 406, 408, 426), and oral argument has not been
19 requested. For reasons stated below, the Court will grant the motion.

20 **I. Background.**

21 On September 18, 2015, DPS criminalist Christopher Kalkowski determined that
22 the bullets from the I-10 freeway shootings were forensically linked to Plaintiff's Hi-Point
23 C9 9mm handgun. Doc. 265-1 at 72. Because the Hi-Point 9mm has a slightly oversized
24 barrel, the gun is capable of firing both 9mm (.355) and .357 caliber bullets. Doc. 406 at 5.
25 Peloza test fired .357 caliber bullets from Plaintiff's gun for purposes of her ballistics
26 comparison "in order to obtain a more complete representation of the individual
27 characteristics left on bullets fired from [Plaintiff's gun.]" Doc. 383-3 at 90. Peloza used
28 procedures from a recent study by one of Plaintiff's experts, Lucian Haag. *Id.* (citing

1 “Hi-Point C9 9mmL Study 5 Consecutive Barrels,” Association of Firearm and Tool Mark
2 Examiners (“AFTE”) Forum); *see* Doc. 426-1. According to Pelozza, “[t]he study
3 determined that firing a .357 caliber bullet . . . through the Hi-Point model C9 would result
4 in the bullet making complete contact with each of the lands of the barrel; thus, providing
5 a more complete ‘picture’ of the individual markings made by the firearm.” Doc. 383-3
6 at 90.

7 In her report dated June 16, 2016, Pelozza describes the results of her testing as
8 follows:

9 Using laboratory ammunition components, a 357 caliber bullet was loaded
10 into a 9mm Luger caliber cartridge case and test fired. Two test bullets were
11 collected and labeled[.]

12 Comparison of [two 9mm caliber bullets identified as having been fired from
13 Plaintiff’s gun] to the newly fired ‘357 bullets’ . . . revealed additional areas
14 of agreement which further affirm the identifications made by [Christopher]
Kalkowski[.]

15 *Id.*; *see id.* at 24 (Pelozza’s June 13, 2016 report stating that “[t]he ‘357 bullets’
16 were . . . compared to the previously test fired ‘9mm bullets’ . . . strictly for the purpose of
17 providing additional documentation of the identifications previously made by C.
18 Kalkowski[.]”) (internal references omitted).

19 Defendant identified Pelozza as a fact witness and disclosed the report of the test she
20 performed using .357 caliber bullets. Docs. 383 at 3, 383-3 at 24. Plaintiff moved to
21 exclude Pelozza’s opinions because she was never disclosed as an expert witness. Doc. 290
22 at 2. On September 4, 2020, the Court found that Pelozza’s testimony about her report was
23 in fact expert testimony under Federal Rule of Evidence 702, but that Defendant’s failure
24 to disclose her as an expert witness was harmless and she therefore may testify at trial.
25 Doc. 387 at 3 (citing Fed. R. Civ. P. 37(c)(1)). The Court did not address whether her
26 proposed testimony satisfies the requirements of Rule 702. *See* Docs. 382 at 4-5, 387 at 3.

27 Plaintiff now moves to preclude Pelozza’s testimony under Rule 702, arguing that it
28 is not based on an accepted methodology for firearms identification. Doc. 390 at 2-5. The

1 Court directed Defendant to file a response, and Defendant did so on September 25, 2020.
2 Doc. 406. Plaintiff replied one week later, and Defendant filed a sur-reply on October 14.
3 Docs. 408, 426.¹

4 **II. Relevant Legal Standards.**

5 Under Rule 702, an expert may offer “scientific, technical, or other specialized
6 knowledge” if it “will assist the trier of fact to understand the evidence,” provided the
7 testimony rests on “sufficient facts or data” and “reliable principles and methods,” and
8 “the witness has reliably applied the principles and methods to the facts of the case.”
9 Fed. R. Evid. 702(a)-(d). The proponent of expert testimony has the ultimate burden of
10 showing that the proposed testimony is admissible. *See Cooper v. Brown*, 510 F.3d 870,
11 942 (9th Cir. 2007); *Lust v. Merrell Dow Pharms., Inc.*, 89 F.3d 594, 598 (9th Cir. 1996).

12 The admissibility of expert testimony under Rule 702 is a preliminary question the
13 Court must decide under Federal Rule of Evidence 104(a), and the Rule 104(a) decision
14 must be made by a preponderance of the evidence. *See Daubert v. Merrell Dow Pharms.,*
15 *Inc.*, 509 U.S. 579, 592 & n.10 (1993); *Bourjaily v. United States*, 483 U.S. 171, 175-76
16 (1987). Some cases mistakenly suggest that some of the elements in Rule 702 are jury
17 questions – that whether an expert’s opinion is based on reliable principles and methods,
18 and whether those principles and methods have been applied to the facts of the case
19 reliably, go to the weight of the evidence and should be decided by the jury after cross
20 examination and argument at trial. But the requirements of Rule 702 are conditions for
21 admissibility, and the Supreme Court has made clear that “the trial judge must determine
22 at the outset, pursuant to Rule 104(a),” whether the expert’s testimony is admissible under
23 Rule 702. *Daubert*, 509 U.S. at 592; *see id.* at 597 (the trial court acts as a gatekeeper to

24
25 ¹ Plaintiff further argues that Pelozza impermissibly seeks to testify about an
26 examination of the evidence bullets using an Evofinder. Doc. 390 at 5-6. Ballistics
27 evidence generally is analyzed manually using an optical microscope. *See United States*
28 *v. Johnson*, No. (S5) 16 CR. 281 (PGG), 2019 WL 1130258, at *8 (S.D.N.Y. Mar. 11,
2019). An Evofinder is an automated ballistic identification system that assertedly allows
an examiner to make a more accurate identification than a traditional microscope.
See Docs. 390-5 at 4-5, 406 at 3 n.1; Evofinder, Automated Ballistic Identification,
<http://evofinder.com/technology/> (last visited Oct. 21, 2020). Defendant makes clear in its
response that Pelozza will not testify about use of an Evofinder. Doc. 406 at 2-3.

1 ensure that “an expert’s testimony both rests on a reliable foundation and is relevant to the
2 task at hand”). Thus, the Court’s task in this order is to determine whether Defendant has
3 shown by a preponderance of the evidence that the requirements of Rule 702 have been
4 satisfied with respect to Pelozza’s testimony. *See id.* at 592 n.10; *Bourjaily*, 483 U.S.
5 at 175-76; *Davis v. McKesson Corp.*, No. CV-18-1157-PHX-DGC, 2019 WL 3532179,
6 at *3-4 (D. Ariz. Aug. 2, 2019).

7 **III. Discussion.**

8 Plaintiff contends that Pelozza’s comparison of evidence bullets with test-fired
9 bullets of a different caliber is an experimental methodology that is not generally accepted
10 in the forensic science community. Doc. 390 at 2-3. Plaintiff claims that Haag’s study
11 involving the use of a different caliber bullet, which Pelozza cited in her report, was an
12 academic endeavor designed to find out, theoretically, whether a larger diameter bullet
13 would engage more snugly against the barrel of the gun when fired. *Id.* at 4 (citing
14 Doc. 390-5 at 11-12). Plaintiff notes that Haag merely shared the study “anecdotally with
15 colleagues in a chat room for members of [the AFTE,]” and that the study has not been
16 published and peer-reviewed. *Id.*

17 Defendant counters that Pelozza’s report is based on a pattern-matching firearm
18 examination, which the AFTE has recognized as an approved forensic method. Doc. 406
19 at 5; *see Pelozza Decl.*, Doc. 426-7 at 7. Under the pattern-matching method, examiners use
20 a high-powered microscope to determine whether there is “sufficient agreement” between
21 the unique surface contours of two firearm toolmarks. *Id.* Defendant asserts that pattern-
22 matching is an accepted and reliable ballistics methodology, noting that federal courts have
23 found expert testimony based on the pattern-matching methodology admissible under
24 Rule 702 and *Daubert*. Docs. 406 at 6-7, 426 at 3-6.

25 But Pelozza, by her own admission, used a different method – comparing evidence
26 bullets with test-fired bullets of a different caliber. Pelozza states in her June 9, 2016
27 worksheet that, “[b]ased on a method used and results obtained in a recent study [by Lucien
28 Haag,] it was decided to use that same method in order to obtain more complete markings

1 on test fired bullets.” Doc. 408-7 at 2. Defendant has not shown that this new method is
2 generally accepted by the community of firearms and toolmark examiners, that Haag’s
3 study has been published and peer-reviewed, or that there is a known or potential error rate
4 when comparing bullets with different calibers. *See Daubert*, 509 U.S. at 593-94.

5 Defendant notes that Plaintiff fails to identify a single case in which forensic
6 ballistics testimony was excluded under *Daubert*, and that the pattern-matching method
7 has been tested and has a very low error rate. Doc. 406 at 6 & n.2. But Plaintiff is not
8 challenging testimony based on the well-established pattern-matching method; he
9 challenges Pelozza’s use of the new method purportedly proposed by Haag. Doc. 408 at 4.
10 Defendant further asserts that the AFTE Journal meets the *Daubert* peer review element
11 (Doc. 426 at 6), but Haag shared his study “informally with colleagues in an online forum”
12 (Doc. 408-2 at 3). Haag has made clear that his study “has not been peer-reviewed,” that
13 its purpose “was informational only[,]” and that the “technique of the study was not
14 intended or validated for any forensic use in actual criminal case work.” Doc. 408-2 at 3.

15 What is more, Haag’s study was a barrel-to-barrel comparison, not a bullet-to-bullet
16 comparison in which different size bullets were used. The study is titled “Hi-Point C9
17 9mmL Study 5 *Consecutive Barrels*.” Doc. 426-1 at 8 (emphasis added). The purpose was
18 “[t]o investigate the possibility of carry-over (sub-class characteristics) between
19 consecutively manufactured 3-Left C9 High-Point barrels.” *Id.* at 10; *see* Doc. 408-2 at 2
20 (“In April 2016, I conducted an informal study to determine if bullets fired from
21 consecutively manufactured Hi-Point 9mm barrels would contain reproducible
22 markings.”). Pelozza relies on a supplement to Haag’s study in which he used .357 caliber
23 bullets “as a means of obtaining the maximum amount of striated markings for the purpose
24 of evaluating sub-class or ‘carry-over’ from the rifling tool.” Doc. 426-1 at 275. The .357
25 bullets were not used to make a bullet-to-bullet comparison of different caliber bullets to
26 determine whether the same gun had fired the bullets.

27 Defendant relies on the AFTE’s “sufficient agreement” pattern-matching method.
28 Doc. 426 at 4; *see* AFTE, *Theory of Identification as it Relates to Toolmarks*,

1 <https://afte.org/about-us/what-is-afte/afte-theory-of-identification>) (last visited Oct. 21,
2 2020). “[S]ufficient agreement’ is related to the significant duplication of random
3 toolmarks as evidence by the correspondence of a pattern or combination of patterns of
4 surface contours. Significance is determined by the comparative examination of two or
5 more sets of surface contour patterns comprised of individual peaks, ridges and furrows.
6 Specifically, the relative height or depth, width, curvature and spatial relationship of the
7 individual peaks, ridges and furrows within one set of surface contours are defined and
8 compared to the corresponding features in the second set of surface contours.” *Id.*

9 Defendant has not shown that this comparison of surface contours is a reliable
10 method of pattern-matching when different size bullets are compared. Nothing is offered
11 to account for the likely larger peaks, ridges, and furrows within the larger caliber bullet,
12 or to extrapolate from the smaller markings on the smaller caliber bullet. Defendant states
13 that “[t]he reason that Haag and the other forensic scientists in this case were able to make
14 an identification of the source gun is because the markings themselves are what matter for
15 the science of forensic firearm examination.” Doc. 426 at 4. But again, the markings on
16 different caliber bullets will have different sizes – this is the reason Pelozza used larger .357
17 caliber test-fired bullets – and Defendant has not shown that a comparison of the
18 differently-sized markings is a reliable pattern-matching method to determine whether a
19 particular gun fired certain bullets.

20 Pelozza states that “it is not uncommon to do ten or more test firings until an examiner
21 obtains a test fire that has good markings for comparison purposes.” Doc. 426-2 at 7-8.
22 But she does not say that these test fires commonly use different caliber bullets. Pelozza
23 provides no persuasive explanation for her statement that “[t]he analysis of the striation,
24 markings, and patterns on the bullet are still done through the pattern-matching method
25 and do not change simply because [a] .357 bullet was used to obtain the test markings.”
26 *Id.* at 7.

27 Similarly, the Court finds the statement of DPS forensic scientist John Maciulla that
28 “there is nothing about the increase in the .002 [caliber] that changes the science itself of

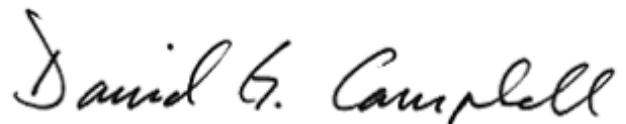
1 pattern matching and comparing the markings on the fired bullets” to be conclusory.
2 Doc. 426-1 at 6. The statement purportedly is based Maciulla’s “training, knowledge, and
3 experience of the pattern matching method[,]” but he identifies no specific training,
4 knowledge, or experience using different caliber bullets to make a firearms toolmark
5 identification. *Id.*; see *In re Bard IVC Filters Prods. Liab. Litig.*, No. MDL 15-02641-PHX
6 DGC, 2018 WL 495189, at *3 (D. Ariz. Jan. 22, 2018) (rejecting expert testimony where
7 the expert provided no information from which the court could conclude that his own
8 experiences or training as a physician provided “sufficient facts and data” to support an
9 opinion on complication rates) (quoting Fed. R. Evid. 702(b)). Maciulla further states in
10 conclusory fashion that Haag’s study was “adequate to serve as a validation study for
11 Pelozza’s .357 analyses.” Doc. 426-1 at 6. The Court finds Haag’s statement to the contrary
12 (Doc. 408-2 at 3) to be more persuasive because he performed the study and knows better
13 than Maciulla the study’s scope and purpose.

14 DPS forensic scientist Aaron Brudenell has testified that Pelozza’s analysis of the
15 test-fired .357 bullets “is consistent and in compliance with [his] training, experience, and
16 knowledge of the pattern matching method.” Doc. 426-2 at 3. But Brudenell also provides
17 no specific training, knowledge, or experience with using different caliber bullets to make
18 a firearms toolmark identification.

19 Defendants have failed to show, by a preponderance of evidence, that Pelozza’s
20 testimony about her .357 analysis rests on sufficient facts and data, reliable principles and
21 methods, or reliable principles and methods applied reliably, as required by Rule 702(b)-
22 (d). The Court accordingly will grant Plaintiff’s motion and preclude Pelozza’s testimony
23 in this regard.

24 **IT IS ORDERED** that Plaintiff’s motion to preclude testimony of Lisa Pelozza
25 (Doc. 390) is **granted**.

26 Dated this 22nd day of October, 2020.

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David G. Campbell
7 Senior United States District Judge