

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA

IN AND FOR THE COUNTY OF PIMA

THE STATE OF ARIZONA,

Plaintiff,

vs.

BRYAN PETER FOSHAY,

Defendant.

RESPONSE TO DAUBERT
MOTION TO PRECLUDE
FIREARMS IDENTIFICATION
EVIDENCE

HON. JANE EIKLEBERRY,
DIVISION 11

CR-20124578-001

COMES NOW the State of Arizona, by and through the Pima County Attorney,
BARBARA LAWALL, and her Deputy, LINDSAY P. ST. JOHN, and hereby requests that this
Court deny Defendant's Motion to Preclude for the reasons set forth in the following
Memorandum of Points and Authorities.

MEMORANDUM OF POINTS AND AUTHORITIES

FACTS:

In the instant matter, Defendant, BRYAN PETER FOSHAY, was indicted by the Pima
County Grand Jury on Count One, First Degree Murder, a Class One Felony. These charges
stemmed from an incident that occurred on January 30, 2012.

On that date the victim, Brian Blackwell, was found dead in his home. There was no gun on
scene, and a murder investigation ensued. After accessing the victim's computer, Tucson police
discovered that the victim's last opened message was from Defendant demanding "open the door
pussy." At that time, the investigation focused in on Defendant. In a search warrant executed on
February 7, 2012, Detectives located a Ruger P94 hidden between Defendant's mattress and box

1 spring. The loaded gun was made safe and placed into evidence, where it was later submitted for
2 testing to compare it to the single bullet recovered in Brian Blackwell's head. Tucson Police
3 Department analyst Bongi Bishop made a comparison of the bullet to other bullets test fired from
4 the gun under a traditional comparison microscope. While she agreed that the general characteristics
5 were similar, she was unable identify sufficient individual characteristics to make a conclusion as
6 to whether Defendant's specific gun had fired the fatal bullet.

7 The Tucson Police Department then contacted other ballistics examiners to see if a more
8 detailed analysis was possible, and ultimately contacted Rocky Edwards a veteran forensic analyst
9 with the Santa Ana Police Department. First Mr. Edwards engaged in additional test fires of
10 Defendant's gun for a total of 20 test-fires, then he also made a casting of the inside of the gun
11 barrel. Mr. Edwards was able to engage in a higher magnification analysis of the bullet and test fires
12 by using a confocal microscope located in Montreal, Canada. Using this instrument, Mr. Edwards
13 was able to scan the autopsy bullet, four of the twenty test fired bullets, and a barrel casting from
14 Defendant's gun. Upon comparison of the markings on these different items, Mr. Edwards was able
15 to conclusively show that the bullet recovered inside Mr. Blackwell's head was fired by Defendant's
16 gun.

17 Mr. Edwards disclosed his written report, detailed comparison photographs, and the scans
18 themselves to the State and these items have been disclosed to Defendant. Defendant then checked
19 the autopsy bullet, the gun, test-fires, and barrel casting out of Tucson Police Department evidence
20 for analysis by an expert of their choice. No results have ever been disclosed to the State.

21 Defendant now seeks preclusion of comparison results claiming that toolmark analysis
22 generally cannot be admitted under *Daubert* and specifically that the technique used by Mr. Edwards

1 should be precluded as unreliable. However, given the general acceptance of toolmark analysis, the
2 ability to replicate Mr. Edwards' analysis in this case, and the fact that the techniques and
3 specifically the findings in this case have passed peer review, Defendant's Motion should be denied
4 and the evidence should be presented to the jury.

5 **LAW:**

6 **I.**
7 **EDWARDS IS A QUALIFIED EXPERT AND HIS TESTIMONY IS ADMISSIBLE**
8 **UNDER RULE 702.**

9 Defendant claims that testimony of the State's witness does not meet the Ariz. R. Evid. 702
10 standards. Defendant is mistaken, however, as Rocky Edwards is a qualified expert under the
11 *Daubert* standard, and his testimony is admissible under Ariz. R. Evid. 702. Therefore, Defendant's
12 Motion should be denied.

13 **A. Officer Edwards is a qualified expert under the *Daubert* Standard.**

14 Under the Federal Rules of Evidence and the *Daubert* standard, which was adopted in
15 Arizona on January 1, 2012, expert testimony must be both relevant and reliable. *Daubert v. Merrell*
16 *Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993). In *Daubert*, the Supreme Court held that judges
17 should act as gatekeepers to assure that scientific expert testimony proceeds from scientific
18 knowledge. *Id.* at 589. This requires the trial judge to ensure that the expert's testimony "both rests
19 on a reliable foundation and is relevant to the task at hand." *Id.* at 597.

20 To assess the reliability and relevancy of expert testimony, courts may consider five factors:
21 (1) whether the particular scientific theory "can be (and has been) tested"; (2) whether the theory
22 "has been subjected to peer review and publication"; (3) the "known or potential rate of error"; (4)
23 the "existence and maintenance of standards controlling the technique's operation"; and (5) whether

1 the technique has achieved “general acceptance” in the relevant scientific community. *United States*
2 *v. Crisp*, 324 F.3d 261, 265 (4th Cir. 2003) (quoting *Daubert*, 509 U.S. at 593-94). These are not the
3 only factors the court can consider nor are they a complete set of factors that the court must consider.
4 “Rather than providing a definitive or exhaustive list, *Daubert* merely illustrates the types of factors
5 that will ‘bear on the inquiry.’ ... As *Daubert* emphasized, the analysis must be ‘a flexible one.’ ”
6 *Id.* (quoting *Daubert*, 509 U.S. 593-94). A trial court can consider one or more of the *Daubert*
7 factors in assessing the reliability and relevance of expert testimony, depending upon the
8 circumstances of the case. *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 150 (1999) (“the
9 factors identified in *Daubert* may or may not be pertinent in assessing reliability, depending on the
10 nature of the case, the expert’s particular expertise, and the subject of his testimony”) (citation
11 omitted). For example, in *State v. Davolt*, 207 Ariz. 191, 84 P.3d 456 (2004), the Court found that
12 an officer was qualified to testify in capital murder prosecution as an expert on blood spatter analysis
13 because even though the officer’s training on blood spatters, consisting of classes and watching
14 training videos, was not extensive, it was significantly more extensive than the average person had
15 received and was sufficient to allow the testimony to be heard by the jury.

16 Here, the State’s expert witness is qualified under the *Daubert* standard. Mr. Edwards has
17 worked in the field of toolmark analysis for 24 years. *See* Attachment A, Curriculum Vitae of Rocky
18 Edwards. He first went through a rigorous two year training program through the U.S. Army
19 Criminal Investigation Laboratory, which included training in advanced techniques at the
20 Southwestern Institute of Forensic Sciences in Dallas, Texas, and at the Milwaukee crime lab. He
21 then worked for two years as a forensic firearms and toolmarks examiner for the U.S. Army,
22 whereupon he retired from the military and went to work for the Los Angeles Police Department

1 Firearms Analysis Unit. Since 1996 Mr. Edwards has been employed as a firearms and toolmark
2 analyst with the Santa Ana Police Department, while also doing contract work for the Stockton,
3 California Police Department. Mr. Edwards has continued to engage in toolmark analysis in the
4 laboratory, while also lecturing on the subject internationally.

5 Mr. Edwards is extensively trained in toolmark analysis on ballistics. Defendant seeks to
6 compare his training and level of expertise to that of Criminalist Bishop employed by TPD.
7 However, Defendant fails to acknowledge the years of additional training that Mr. Edwards has, and
8 his recognition in both the national and international forensic field. The mere fact that he was able
9 to consider the work initially done by Ms. Bishop, but then build upon it with additional test fires,
10 creating a barrel cast of Defendant's gun, and accessing improved imaging, demonstrates his higher
11 level of expertise in this area. Mr. Edwards used the additional information he developed, namely
12 the barrel casting, which was critical in his ultimate identification of the autopsy bullet. Mr. Edwards
13 was able to make the identification with a traditional optical comparison microscope, which had been
14 used in this field since the development of this microscope in 1927, and his analysis were further
15 confirmed but the confocal microscopy which allowed him an even better look at the striations on
16 the various items for comparison. Uses of barrel casts in microscopic examination are well
17 documented in articles published in the AFTE Journal.¹

18 Mr. Edwards is not merely qualified, but a true expert in this form of analysis. Therefore,
19 because of his qualifications, and because his testimony is based on a reliable foundation, relevant

¹ It is noteworthy that in his 1981 bullet to barrel cast analysis, Al Biasotti with the Bureau of Alcohol, Tobacco, Firearms, and Explosives also visually "flattened" the bullet he was comparing through use of sketches to enhance his analysis. *Collins, E., The Identification of Fired Bullets Having Bearing Surfaces with General Contour Variations but Minimal Fine Striae*, AFTE Journal, Volume 44, No. 2 (Spring 2012). This sketching method is a precursor to the ability to use the computer to digitally "flatten" the image.

1 to Defendant's case, Defendant's Motion should be denied, and Mr. Edwards should be allowed to
2 testify to a jury.

3 **B. The testimony is admissible under Ariz. R. Evid. 702.**

4 Rule 702, Ariz. R. Evid., provides:

5 A witness who is qualified as an expert by knowledge, skill,
6 experience, training, or education may testify in the form of an
7 opinion or otherwise if:

- 8 (a) the expert's scientific, technical, or other specialized knowledge
9 will help the trier of fact to understand the evidence or to determine
10 a fact in issue;
11 (b) the testimony is based on sufficient facts or data;
12 (c) the testimony is the product of reliable principles and methods;
13 and
14 (d) the expert has reliably applied the principles and methods to the
15 facts of the case.

16 The 2012 amendment of Ariz. R. Evid. 702 adopts the Fed. R. Evid. 702, as restyled.

17 The *Daubert* Court provided a non-dispositive, non-exclusive, "flexible" test for establishing
18 the "validity" of the scientific methodology including: empirical testing; peer review and publication;
19 known or potential error rate; the existence of standards and controls; and the degree to which the
20 science is accepted by the relevant scientific community. *Daubert*, 509 U.S. 579, 593-94. The
21 Supreme Court addressed the effect of *Daubert*'s reliability requirements on non-scientific expert
22 testimony in *Kumho Tire Co. v Carmichael*, 526 U.S. 137 (1999).

23 In *Kumho Tire* the Court held that the judge's gatekeeper function applies to all expert
24 testimony. *Id.*, 526 U.S. at 147. The Court, however, emphasized that the "test of reliability is
25 'flexible' and *Daubert*'s list of specific factors" does not apply "to all experts or in every case." *Id.*
26 at 141. The Court explained that, just as in *Daubert*, the "list of factors was meant to be helpful, not
27 definitive." *Id.* at 151. *Kumho Tire* stressed the trial court's "discretion to decide how to test an

1 expert's reliability as well as whether the testimony is reliable, based on 'the particular circumstances
2 of the particular case.'" *Primiano v. Cook*, 598 F.3d 558, 564 (9th Cir. 2010), quoting *Kumho Tire*,
3 526 U.S. at 150; *United States v. Hankey*, 203 F.3d 1160, 1168 (9th Cir. 2000).

4 In considering the admissibility of testimony based on some "other specialized knowledge,"
5 Fed. R. Evid. 702 is generally construed liberally. *See, e.g., United States v. Ramsey*, 334 U.S. App.
6 D.C. 193, 165 F.3d 980, 984 (D.C. Cir. 1999) (admission of opinion testimony, given by agent of
7 Drug Enforcement Administration regarding drug trade was not plainly erroneous; while agent was
8 not formally qualified as expert, agent described his qualifications, including his specialized
9 knowledge, education, skill and experience, before giving testimony).

10 "Caselaw after *Daubert* shows that the rejection of expert testimony is the exception rather
11 than the rule. *Daubert* did not work a 'seachange over federal evidence law,' and 'the trial court's
12 role as gatekeeper is not intended to serve as a replacement for the adversary system.'" Fed. R. Evid.
13 702 Notes of Advisory Committee on 2000 Amendments, quoting *United States v. 14.38 Acres of*
14 *Land Situated in Leflore County, Miss.*, 80 F.3d 1074, 1078 (5th Cir. 1996). "There is nothing in
15 Rule 702 "intended to suggest that experience alone—or experience in conjunction with other
16 knowledge, skill, training or education—may not provide a sufficient foundation for expert
17 testimony." Fed. R. Evid. 702 Notes of Advisory Committee on 2000 Amendments. In fact, "Rule
18 702 expressly contemplates that an expert may be qualified on the basis of experience. In certain
19 fields, experience is the predominant, if not sole, basis for a great deal of reliable expert testimony."

20 *Id.*

21 Defendant opines that Mr. Edwards analysis is based on "threadbare scientific foundation"
22 dismissing both the use of confocal microscopy to enhance the existing field, and the field of

1 toolmark analysis as a whole. Defendant's disdain appears to be based in part on cases in other
2 jurisdictions which have narrow admissibility, and in part on a report published by the National
3 Academy of Sciences in 2009. However, "for decades, both before and after the Supreme Court's
4 seminal decisions in *Daubert* and *Kumho Tire*, admission of the type of firearm identification
5 testimony challenged by the defendants has been semi-automatic; indeed, no federal court has yet
6 deemed it inadmissible." *U.S. v. Monteiro*, 407, F.Supp.2d 351, 364 (D.Mass. 2006) (citations
7 omitted). "The Court has not found a single case in this Circuit that would suggest that the entire
8 field of ballistics identification is unreliable." *United States v. Santiago*, 199 F. Supp. 2d 101, 111
9 (S.D.N.Y. 2002). In assessing the admissibility of this evidence, one court noted:

10 Several courts have admitted firearms-identification testimony following *Daubert* and
11 *Kumho Tire*....Indeed, it has been stated: "Expert testimony identifying a particular
12 weapon as the one source of both a questioned (crime scene) bullet and known
13 bullets (test firings) is admissible in every American jurisdiction. At least 37
14 jurisdictions have approved it by appellate opinion." David L. Faigman et al., *Modern*
15 *Scientific Evidence*, at 396 (4th ed.2005). No reported decision has ever excluded
16 firearms-identification expert testimony under *Daubert*.

17 *United States v. Diaz*, 2007 WL 485967 (N.D. Cal. Feb. 12, 2007) (citations omitted).

18 Most cases find the evidence at issue reliable and admissible after reviewing the very
19 *Daubert* factors urged by Defendant in this case. As Defendant has pointed out, some courts have
20 allowed for the admission of the testimony but only permit the witness to state their opinion as to
21 a "reasonable degree of certainty in the ballistics field." *See, e.g., Monteiro*, supra.

22 The general theories behind firearm examination have been, and continue to be, tested by
23 various firearms examiners by conducting studies to ensure the accuracy of the process. The
24 Association of Firearm and Toolmark examiners publishes a journal that is subject to peer review
25 and that has a process for submission of articles that includes technical review. In his methodology

1 Mr. Edwards has employed confocal microscopy, an instrument that has been available since the
2 1950s and widely used in other fields. Mr. Edwards has used this instrument to more closely examine
3 the toolmarks left behind on a bullet after it is fired from a specific weapon. The ability to see in
4 more detail, always in focus, with better lighting, and no glare allow the examiner to look for the
5 same types of information as traditional toolmark analysis, but with more accuracy. The use of
6 enhanced microscopy does not fundamentally change the comparison that is being made, and
7 therefore does not change its admissibility under *Daubert*.

8 Defendant makes much of Mr. Edwards selection of specific bullets, in which he was able
9 to see consistent marks under a traditional comparison microscope, but this practice is standard to
10 the industry, and is even included in the double blind studies required for proficiency. It is simply
11 not feasible to examine each test fired bullet at the magnification level available under the confocal
12 microscope. While this may be fodder for cross examination, it is certainly not a basis for
13 preclusion. Furthermore, in his report, Mr. Edwards made clear that he did, in fact, examine all of
14 the test fired bullets under a comparison microscope, just not under the confocal microscope. Of the
15 113 photographs contained in his report, 59 were taken using traditional methods and the comparison
16 microscope, only 54 were digitally obtained using the IBIS-HD3D system.

17 Defendant also questions Mr. Edwards ability to change adjust the lighting and the color in
18 which the bullet appears. Defendant insinuates that this makes the analysis improper, but cites to no
19 industry standard which precludes this practice. In fact, the adjustment of light and the use of
20 different color filters to enhance an examiners ability to observe specific toolmarks is a standard
21 practice under a traditional comparison microscope analysis as set forth in the standards set by the
22 Association of Firearm and Tool-mark Examiners. Mr. Edwards will testify as to the traditional use

1 of light and color filters and how that compares to his examination technique.

2 The relevant scientific community accepts the methodology used in this case, and has done
3 so for decades. Mr. Edwards has presented the process of using the comparison microscope in
4 conjunction with the IBS TRAX-3D and HD3D system at peer conferences worldwide.²
5 Furthermore, Mr. Edwards comparison *in this case* has been presented at a symposium, and therefore
6 not only has his method been peer reviewed, but his specific findings have as well. Although the
7 technology used in this case for computer imagining and manipulation is rapidly developing, it isn't
8 new. Prior versions of the software used in this case have been in use since 1993.³ The current IBIS
9 TRAX: HD3D system merely improves the clarity of the imagery allowing for finer detail
10 comparison especially in the edge or "shoulder" areas of lands and groove impressions. This
11 technology is also widespread as there are over 100 systems deployed worldwide, three other
12 countries using the IBIS TRAX: HD3D system, and two such systems in the United States. While
13 Defendant is correct that the general acceptance of a science or technology is no longer a factor under
14 the lower threshold of *Daubert* analysis, the widespread use of a technology speaks to how widely
15 it's reliability has been tested and vetted.

16 Finally Defendant boldly asserts that Mr. Edwards is biased, in part because he is a police
17 officer, and in part because of his interest in this technology. Mr. Edwards, after an honorable career
18 in the US Military is now employed as a civilian by police departments. In his 23 years of toolmark

² Presentations have taken place in Mexico, Cypress, France (Interpol Headquarters), Chicago, Ill and Montreal, Canada. The conferences consisted of Forensic Firearms Examiners and Laboratory Directors representing approximately 70 countries. In each of these conferences Mr. Edwards presented the processes and procedures used in the examination process where 3D were used as a supplemental tool.

³ In 1993 Bullet Proof (DOS) was first debuted, followed by Brass Catcher (DOS) in 1995, IBIS Heritage (Windows) in 1997, IBIS TRAX in 2004, IBIS TRAX:3D in 2007, and finally the version used in this case IBIS TRAX: HD3D in 2013.

1 and firearm analysis, Mr. Edwards has engaged in countless comparisons. He looks for similarities
2 or the lack there of in his analysis. Sometimes he is able to conclusively identify items as a match,
3 sometimes he excludes items, and sometimes the analysis is inconclusive. Either way, all
4 comparisons are documented and peer reviewed. There is no factual basis for asserting that Mr.
5 Edwards is biased, and his lengthy and distinguished career belies the accusation.

6 Testimony regarding the firearms analysis is both relevant and reliable. The techniques and
7 procedures used by Rocky Edwards are reliable and consistent with industry standards. Finally, Mr.
8 Edwards results in this case were reviewed by a second examiner before being released. For all of
9 these reasons, the science in this case is admissible and Defendant's Motion should be denied.

10 **CONCLUSION:**

11 For the foregoing reasons, the State respectfully requests that this Court deny Defendant's
12 Motion to Preclude.

13 RESPECTFULLY submitted this _____ day of January, 2014.

14 BARBARA LAWALL
15 PIMA COUNTY ATTORNEY

16 _____
17 LINDSAY P. ST. JOHN, #65954
18 Deputy County Attorney
19 Lindsay.StJohn@pcao.pima.gov

20 **Original of the foregoing filed**
21 **with the Clerk of the Court**
22 **this _____ day of January, 2014.**

23 **Copy of the foregoing delivered**
24 **this _____ day of January, 2014, to:**

25 Honorable Jane Eikleberry,
26 Division 11

Copy of the foregoing mailed/delivered
this _____ day of January, 2014, to:

Walt Palser and Elena Kay
Public Defender
Tucson, AZ 85701
Attorneys for Defendant