

LOHRA L. MILLER
District Attorney for Salt Lake County
ROBERT L. STOTT, Bar No. 3131
BYRON F. BURMESTER, Bar No. 6844
BERNADETTE M. GOMEZ, Bar No. 10369
Deputy District Attorney
111 East Broadway, Suite 400
Salt Lake City, Utah 84111
Telephone: (801) 363-7900

IN THE THIRD DISTRICT COURT, SALT LAKE DEPARTMENT
IN AND FOR SALT LAKE COUNTY, STATE OF UTAH

THE STATE OF UTAH, Plaintiff, -vs- JASON KYLE CLARK, Defendant.	MEMORANDUM IN OPPOSITION TO MOTION TO EXCLUDE EXPERT EVIDENCE OF FIREARM IDENTIFICATION AND RELATED TESTIMONY Case No. 071903450FS Judge William W. Barrett
---	--

Plaintiff, the State of Utah, through its counsel, LOHRA L. MILLER, Salt Lake County District Attorney, BYRON F. BURMESTER, Deputy District Attorney, and ROBERT L. STOTT, Deputy District Attorney, BERNADETTE M. GOMEZ, Deputy District Attorney hereby submits this Memorandum in Opposition to Defendant's Motion to Exclude or Limit Firearm Identification Testimony for consideration and respectfully requests that this Court deny the Defendant's motion.

STATEMENT OF PERTINENT FACTS

On April 29, 2007, defendant Jason Clark, Daniel Blankenship, and an unidentified male went to the home of Audra Snider-Gerdin at 126 East Sunset Avenue, Salt Lake County, Utah. The defendants pulled out guns and a crowbar, and told Ms.

Snider-Gerdin to sit down on the couch. The defendants began to threaten Ms. Snider-Gerdin, and used lit cigarettes to burn her. During the assault, Ms. Snider-Gerdin's friends, Kevin Kone and Debra Lindner, knocked on the door. The defendants told Ms. Lindner to sit on the couch next to Ms. Snider-Gerdin, and Mr. Kone was told to sit on the floor. The defendants began to threaten Mr. Kone and Ms. Lindner, and later told Mr. Kone to put a gag in his mouth. Mr. Kone refused, stood up and began to resist his assailants. The defendants grabbed Mr. Kone and yelled at him, but he continued to fight against their efforts to subdue him. Clark then shot Mr. Kone in the head. As Mr. Kone fell to the ground, Clark shot him again. Mr. Kone died from his wounds. Clark then turned to Ms. Snider-Gerdin and Ms. Lindner, and began shooting at them as he fled from the house. Ms. Snider-Gerdin was holding her dog, Chloe, on her lap. Both Ms. Lindner and Ms. Snider-Gerdin were struck by the bullets and grievously wounded. Chloe was struck once in the head and died. The defendant was arrested on May 7, 2007 while riding in the passenger seat of a red Blazer. On the floor at his feet deputies found a .40 cal. Berretta handgun.

42 days before the homicide, on March 12, 2007, officers with the West Valley City Police Department responded to a shooting at 2861 West Baty Drive, in Salt Lake County. Witnesses stated that the victim, Gabriel Torres, was shot by defendant Jason Clark after an argument ensued between Clim Grant and defendant's girlfriend, Stephanie. Several shell casings were recovered from the scene. There was also a bullet recovered from Gabriel Torres' leg at the hospital. State Firearm Examiner, David Wakefield, compared evidence from the March 12 shooting (the bullet recovered from the victim and shell casings recovered at the scene) to evidence from the instant case

including bullets and shell casings as well as the Berretta seized on May 7. Wakefield issued a report in which he opined that the shell casings and bullets had been discharged from the Berretta seized on May 7.

David Wakefield is employed as a firearms examiner by the Utah Bureau of Forensic Services. Among other things, firearms examiners compare unknown bullets and casings with known bullets and casings in an effort to determine if the bullets and casings have a common origin. As part of their evaluation, firearms examiners compare the striations and impressions in the known objects with those in the unknown objects, looking for matching patterns in the striations and impressions.

Mr. Wakefield has extensive credentials and experience as a firearms examiner. A full explanation of the credentials and experience, provided by Mr. Wakefield, is attached as an exhibit to this memorandum. *See* Exhibit #1. Mr. Wakefield's ability as a firearms examiner is evaluated regularly through proficiency testing provided by Collaborative Testing Services, an independent third-party organization. These proficiency tests require Mr. Wakefield to evaluate for common origin in known and unknown bullets and casings. Mr. Wakefield has submitted to these tests yearly from 1995 through 2008, a total of fourteen tests. He has passed each test.

Further, Mr. Wakefield is a member of the Association of Firearm and Toolmark Examiners, known as AFTE. Mr. Wakefield has been certified by AFTE as a firearms examiner. Only 76 other people in the world have obtained AFTE firearms certification.¹

¹ *See* http://www.afte.org/AssociationInfo/a_certification4.htm and http://www.afte.org/AssociationInfo/a_certification.htm.

In this case, Mr. Wakefield examined a hand gun, six bullets, four bullet jackets, one bullet core, twelve cartridge casings, and one unfired cartridge used as a test fire. The State seeks to introduce the results of Mr. Wakefield's examination.

ARGUMENT

By his motion, defendant Jason Clark seeks to exclude or limit testimony by David Wakefield, a firearms examiner. Clark seeks to do so under Utah Rule of Evidence 702. Because firearms analysis as done by Mr. Wakefield is generally accepted in the relevant expert community, and because independent of general acceptance firearms analysis meets the reliability requirements of Rule 702, the Court should deny Clark's motion and allow Mr. Wakefield to testify.

Rule 702 of the Utah Rules of Evidence governs the admissibility of expert testimony. The rule states:

- (a) Subject to the limitations in subsection (b), 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.
- (b) Scientific, technical, or other specialized knowledge may serve as the basis for expert testimony if the scientific, technical, or other principles or methods underlying the testimony meet a **threshold showing** that they (i) are reliable, (ii) are based upon sufficient facts or data, and (iii) have been reliably applied to the facts of the case.
- (c) The **threshold showing** required by subparagraph (b) **is satisfied** if the principles or methods on which such knowledge is based, including the sufficiency of facts or data and the manner of their application to the facts of the case, are **generally accepted by the relevant expert community**.

Utah R. Evid. 702 (emphasis added) [hereinafter Rule 702].

By intention, Utah’s rule differs from Federal Rule of Evidence 702 governing expert testimony. According to the Advisory Committee Note of Utah’s Rule 702, “[a]lthough Utah law foreshadowed in many respects the developments in federal law that commenced with Daubert, the 2007 amendment [to the Utah rule] preserves and clarifies differences between the Utah and federal approaches to expert testimony.” Advisory Committee Note, Rule 702. Unlike the federal rule, there are two paths to admittance of expert testimony under Utah Rule 702. **First**, expert testimony can be admitted if it is, in sum, “generally accepted by the relevant expert community.” Rule 702(c). If a court finds the expert testimony generally accepted by the relevant expert community, then the testimony *is* admissible. The rule is clear: if there is general acceptance, that is the end of the inquiry; **no reliability analysis is needed**.

Second, expert testimony can be admitted through a reliability analysis. *See* Rule 702(b). This path to admittance is wholly independent of the “general acceptance” path. However, even this part of the rule is not parallel to the federal rule. To gain admissibility, proposed expert testimony need only meet a “threshold” of reliability. The difference between the Utah rule and the federal rule on this point is explained in the Advisory Committee Note. “Unlike the federal rule,” the Note states, “. . . the Utah rule notes that the proponent of the testimony is required to make only a ‘threshold’ showing. That ‘threshold’ requires only a basic foundational showing of indicia of reliability for the testimony to be admissible, not that the opinion is indisputably correct.” Advisory Committee Note, Rule 702.

In this case, the second path is not needed. As is discussed below, David Wakefield's expert testimony is generally accepted in the relevant expert community. Because of this, the testimony is admissible **independent of any reliability analysis**.

I. DAVID WAKEFIELD'S TESTIMONY IS GENERALLY ACCEPTED IN THE RELEVANT EXPERT COMMUNITY OF FIREARMS EXAMINERS.

David Wakefield's testimony is generally accepted in the relevant community under Rule 702. Clark concedes that expert firearms examiner testimony like Mr. Wakefield's is generally accepted. *See* Def's Mot. at 8, 17-18 ("Defendant concedes that the sort of firearm identification evidence that the State is proffering via David Wakefield has for the most part been generally accepted for some time.") ("Firearm identification has been historically permitted."). Despite conceding general acceptance, Clark invites this Court to perform a reliability analysis consistent with *Daubert*. Doing so would be in direct contravention of Rule 702. To put it simply, Clark's concession of general acceptance ends 702's required inquiry, and Wakefield's testimony is admissible.

Even without Clark's concession of general acceptance, the State can establish that the testimony David Wakefield will offer is generally accepted as explained in Rule 702. As is quoted earlier, Utah Rule of Evidence 702(c) provides that "[t]he threshold showing required by subparagraph (b) is satisfied if the principles or methods on which such knowledge is based, including the sufficiency of facts or data and the manner of their application to the facts of the case, are generally accepted by the relevant expert community." In sum, the proponent of the evidence must determine the relevant expert community, show general acceptance of the principles and methods (including the sufficiency of facts or data) upon which the expert testimony is based, and show that the

generally accepted principles and methods were applied to the specific facts of the case in the way generally accepted by the relevant community.

David Wakefield is a firearms examiner. Thus, the relevant expert community is that of firearms examiners. Among other things, firearms examiners compare unknown bullets and casings with known bullets and casings to determine if the bullets and casings have a common origin based on the tell-tale toolmarks.

Firearm and toolmark identification is a science recognized as such for at least the last one hundred years. The principal of comparing bullets with firearms has been used in courts in America since at least 1923.² Toolmark comparison relies on the very simple proposition that when two objects come into forceful contact with one another the harder object of the two will leave an impression on the softer object. Anyone who has missed the nail head and struck the wood into which they sought to drive the nail with a hammer has observed this phenomenon. Toolmark identification supposes that one who is sufficiently trained can compare striated or impressed marks and determine if they were made by a particular tool. With regards to Firearms and toolmarks, there are two types of forces exerted: impression and striation. Impression toolmarks are produced when sufficient compressive force impresses the harder into the softer surface. Striated toolmarks are created by lateral force and motion. Within firearms, impression toolmarks are generated first when the harder firing pin strikes the soft primer and then, when the propellant ignites and instantly converts to gas expanding in all directions causing the shell casing with its soft primer surface to compress against the much harder surface of the breech face leaving its impression on the primer. Striated toolmarks are left on bullets

² State v. Casey, 213 P. 771 (Or, 1923); see e.g. E. Lefevre, Annotation, Expert Evidence to Identify Gun From Which Bullet or Cartridge Was Fired, 26 A.L.R.2d 892, §7 (1952).

as they slide down the barrel following discharge leaving striation marks from the much harder barrel on the softer lead or jacket material.

For their evaluation, firearms examiners use a comparison microscope to compare the striations and impressions in the known objects with those in the unknown objects, looking for matching patterns (class characteristics, subclass characteristics, and individual characteristics) of impressions and striations.³ Numerous studies have concluded that “1) the working surfaces of different tools produce discernibly different toolmarks even though some quality/quantity of microscopic agreement may be present...and; 2) toolmarks produced by the same tool working surface...can be identified with one another and exhibit a greater quality/quantity of microscopic agreement than known non-matching toolmarks.”⁴

As noted by one court, firearms examiners have used this method for decades: “[t]he comparison microscope examination method has been in use since the 1930's and is an accepted methodology by the Association of Firearms and Toolmark Examiners. . . . Laboratories which use this method of analysis include those at the FBI, the Bureau of Alcohol, Tobacco and Firearms, the Washington, D.C. Metropolitan Police Department, the Philadelphia Police Department, and the New Jersey State Police, and ‘basically every crime laboratory in the United States that is doing firearms identification work....’ . . .” *Commonwealth v. Whitacre*, 878 A.2d 96, 101 (Pa. Super. Ct. 2005) (citations omitted).

³ For an explanation of class characteristics, subclass characteristics, and individual characteristics, see *Strengthening Forensic Science in the United States: A Path Forward*, p. 152.

⁴ Richard Grzybowski et. al., *Firearm/Toolmark Identification: Passing the Reliability Test Under Federal and State Evidentiary Standards*, 4 (citing Nichols, R., *Firearm and Toolmark Identification Criteria: a Review of the Literature*, Journal of Forensic Sciences 1997 May; vol. 42 Issue 3, and Nichols, R., *Firearm and Toolmark Identification Criteria: a Review of the Literature Part II*, Journal of Forensic Sciences 2003 March vol. 48, issue 3).

The Association of Firearm and Tool Mark Examiners, commonly known as AFTE, is the major professional association of firearms examiners. As noted by the court quoted above, AFTE has adopted a “Theory of Identification as it Relates to Toolmarks.” See DAVID FAIGMAN, et al., MODERN SCIENTIFIC EVIDENCE: FORENSICS 422 (2008 Student Edition) [hereinafter *FORENSICS*]. One court’s opinion addresses AFTE, its theory, and general acceptance:

The evidence in these cases suggests that the firearms examination community . . . has a voluntary professional group, the Association of Firearms and Toolmark Examiners, or AFTE. [Peter] Striupaitis [formerly president of AFTE] testified that the firearms examiners community numbers approximately 1,100 individuals, 900 of whom are AFTE members. He further testified that the AFTE Theory of Identification requiring “sufficient agreement” among striations before an identification **is found is generally accepted among the community of firearms and toolmark examiners**. He knows of no examiner who disagrees with the AFTE Theory of Identification and the underlying principles of the field, although he acknowledged that firearms examiners engage in debates on a variety of issues concerning the field of firearms examinations. He based these assertions on the positions he has held in AFTE since 1981, including vice president and president, and on the conferences he has attended and the *AFTE Journal* articles he has read.

Commonwealth v. Meaks, 2006 WL 2819423, *10, *38 (Mass. Super. Sept. 28, 2006) (emphasis added) (internal footnote omitted).

Plainly stated in the words of another court: “[t]he AFTE theory of firearms identification based on traditional pattern matching appears to have broad acceptance in the forensic community.” *United States v. Diaz*, 2007 WL 485967, *11 (N.D. Cal. Feb. 12, 2007) (emphasis added).

In this case, David Wakefield will testify that he applied the AFTE theory of identification based on pattern matching to his analysis in this case.⁵ Because Clark has conceded (and the State has otherwise established) that AFTE’s theory of identification is

⁵ In support of this statement, the State will submit an affidavit by David Wakefield next week.

generally accepted in the relevant expert community, Mr. Wakefield's proposed expert testimony meets Rule 702(c)'s admissibility requirements.

II. EVEN WERE IT NOT GENERALLY ACCEPTED BY THE RELEVANT EXPERT COMMUNITY, DAVID WAKEFIELD'S FIREARMS ANALYSIS MEETS RULE 702'S REQUIREMENTS FOR RELIABILITY.

As demonstrated in the previous section, firearms examiner's testimony like David Wakefield's is generally accepted by the relevant expert community. Thus, the analysis under Rule 702 need not go further. However, as discussed previously, Rule 702 also allows expert testimony to be admitted through a reliability analysis. According to the rule, "[s]cientific, technical, or other specialized knowledge may serve as the basis for expert testimony if the scientific, technical, or other principles or methods underlying the testimony meet a **threshold showing** that they (i) are **reliable**, (ii) are **based upon sufficient facts or data**, and (iii) have been **reliably applied to the facts of the case**." Rule 702(b). As noted by the Advisory Committee, "[t]he fields of knowledge which may be drawn upon are not limited merely to the 'scientific' and 'technical,' but extend to all 'specialized' knowledge." Advisory Committee Note, Rule 702.

Clark seeks to apply the *Daubert* criteria used in Federal Rule 702 analysis to the firearms toolmark examination done in this case. However, as discussed above and pointed out by the Advisory Committee Note, "[u]nlike the federal rule . . . the Utah rule notes that the proponent of the testimony is **required to make only a 'threshold' showing**. That 'threshold' requires only a basic foundational showing of indicia of reliability for the testimony to be admissible, **not that the opinion is indisputably correct**." Advisory Committee Note, Rule 702 (emphasis added).

Finally, the Advisory Committee notes, “this amendment is not intended to provide an excuse for an automatic challenge to the testimony of every expert, and it is **not contemplated that evidentiary hearings will be routinely required** in order for the trial judge to fulfill his role as a rationally skeptical gatekeeper.” *Id.* Rather, courts can decide admissibility using items such as memoranda and affidavits. *See id.*

As discussed above, AFTE has adopted a “Theory of Identification as it Relates to Toolmarks.” *See FORENSICS* at 422. The theory is as follows:

Theory of Identification as it Relates to Toolmarks

- a) The theory of identification as it pertains to the comparison of toolmarks enables opinions of common origin to be made when the unique surface contours of two toolmarks are in “sufficient agreement.”
- b) This “sufficient agreement” is related to the **significant duplication of random toolmarks as evidenced by the correspondence of a pattern or combination of patterns of surface contours**. Significance is determined by the comparative examination of two or more sets of surface contour patterns comprised of individual peaks, ridges and furrows. Specifically, the relative height or depth, width, curvature and spatial relationship of the individual peaks, ridges and furrows within one set of surface contours are defined and compared to the corresponding features in the second set of surface contours. **Agreement is significant when it exceeds the best agreement demonstrated between toolmarks known to have been produced by different tools and is consistent with the agreement demonstrated by toolmarks known to have been produced by the same tool.** The statement that “sufficient agreement” exists between two toolmarks **means that the agreement is of quantity and quality that the likelihood another tool could have made the mark is so remote as to be considered a practical impossibility**.
- c) Currently the interpretation of individualization/identification is subjective in nature, founded on scientific principles and based on the examiner’s training and experience.

Id. (quoting *Theory of Identification, Range of Striae Comparison Reports, and Modified Glossary Definitions—An AFTE Criteria For Identification Committee Report*, 24 Ass’n Firearm & Toolmark Examiners J. 336 (1992) (emphasis added)). In summary, the

AFTE theory allows firearms examiners to issue opinions on common origins of unknown and known objects when there is “sufficient agreement.” There is sufficient agreement when there is “significant duplication” of matching patterns. An examiner may find significance when pattern matching is greater than the “best agreement demonstrated between toolmarks known to have been produced by different tools” and the pattern matching is “consistent” with those “known to have been produced by the same tool.” *Id.*

AFTE has also provided a “Range of Conclusions Possible When Comparing Toolmarks,” a listing of conclusions examiners may draw after applying the AFTE method:

Range of Conclusions Possible When Comparing Toolmarks

The examiner is encouraged to report the objective observations that support the findings of toolmark examinations. The examiner should be conservative when reporting the significance of these observations. The following represents a spectrum of statements:

- 1) *Identification*: Agreement of a combination of individual characteristics and all discernible class characteristics where the extent of agreement exceeds that which can occur in the comparison of toolmarks made by different tools and is consistent with the agreement demonstrated by toolmarks known to have been produced by the same tool.
- 2) *Inconclusive*:
 - A. Some agreement of individual characteristics and all discernible class characteristics, but insufficient for an identification.
 - B. Agreement of all discernible class characteristics without agreement or disagreement of individual characteristics due to an absence, insufficiency, or lack of reproducibility.
 - C. Agreement of all discernible class characteristics and disagreement of individual characteristics, but insufficient for an elimination.
- 3) *Elimination*: Significant disagreement of discernible class characteristics and/or individual characteristics.
- 4) *Unsuitable*: Unsuitable for comparison.

Id. (quoting *Theory of Identification, Range of Striae Comparison Reports, and Modified Glossary Definitions—An AFTE Criteria For Identification Committee Report*, 24 Ass’n Firearm & Toolmark Examiners J. 336 (1992)).

Applying the reliability test in Rule 702(b), the AFTE theory provides guidance for examiners to use in evaluating pattern matching.⁶ David Wakefield has reliably applied the AFTE theory of identification in the past, using it in fourteen consecutive successful proficiency tests administered by the Collaborative Testing Service. *See* Exhibit #1. The theory, along with the range of possible conclusions, explains what AFTE believes constitutes sufficient facts or data to determine whether there is sufficient pattern matching. Mr. Wakefield will testify that he applied the AFTE theory to the examination in this case.⁷

Clark draws upon language in a study by the National Research Council of the National Academies. However, this study explicitly stated that it was not addressing whether firearms analysis should be admissible in court. Indeed, the study makes the following statement: “[w]e also note that the committee **does not provide an overall assessment of firearms identification as a discipline nor does it advise on the admissibility of firearms-related toolmark evidence in legal proceedings**; these topics are not within its charge.” *Id.* COMMITTEE TO ASSESS THE FEASIBILITY, ACCURACY, AND TECHNICAL CAPABILITY OF A NATIONAL BALLISTICS DATABASE, NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, BALLISTIC IMAGING 3 (2008) (emphasis added), available at http://books.nap.edu/catalog.php?record_id=12162#toc; *see also* a statement by Dr. John E. Rolph, attached as Exhibit #3.

⁶ As noted in the previous section, AFTE is the major professional association of firearms examiners.

⁷ In support of this statement, the State will submit an affidavit next week by David Wakefield.

Clark also cites to a few federal cases to attempt to further his cause. He submits these cases in the face of the fact that, at the time a 2008 treatise addressed the subject, “[e]xpert testimony identifying a particular weapon as the one source of both a questioned (crime scene) bullet and known bullets (test firings) is admissible in every American jurisdiction.” *FORENSICS* at 401–02.

The Advisory Committee Note to Rule 702 is helpful on these points. The note explains that the “degree of scrutiny” required by the rule “is **not so rigorous** as to be satisfied only by scientific or other specialized principles or methods that are **free of controversy** or that meet any fixed set of criteria fashioned to test reliability.” *Id.* (emphasis added). Indeed, “[c]ontrary and inconsistent opinions may simultaneously meet the threshold; **it is for the factfinder to reconcile – or choose between – the different opinions.**” *Id.* (emphasis added). Even with Clark’s attempts to add controversy to the issue, expert testimony need not be “free of controversy” for admissibility. Even if there are contrary opinions, proposed testimony is admissible so long as it meets “threshold” reliability. In this case, the AFTE theory – and David Wakefield’s application to this case – meets this threshold. As a result, this Court should deny the defendant’s motion.

CONCLUSION

Firearms analysis such as that performed by David Wakefield in this case is “generally accepted by the relevant expert community.” Under Rule 702 this alone is sufficient for admissibility into court and is grounds for the Court to deny defendant Clark’s motion.

Because the testimony is generally accepted, Rule 702 calls for admissibility without a reliability analysis. However, independent of admissibility through general acceptance, Wakefield's testimony meets the "threshold showing" of reliability as discussed in Rule 702.

For these reasons, the State requests that this Court deny defendant Clark's motion.

RESPECTFULLY SUBMITTED this ____ day of July, 2009

LOHRA L. MILLER
District Attorney

BYRON F. BURMESTER
Deputy District Attorney

