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| District Court, Arapahoe County, Colorado<br>Arapahoe County Courthouse<br>7325 S. Potomac St., Centennial, CO 80112  | JUN - 8 2013<br>COURT CLERK<br>COURT USE ONLY  |
| THE PEOPLE OF THE STATE OF COLORADO,<br>Plaintiff<br><br>v.<br><br><b>JAMES HOLMES,</b><br>Defendant  | Case No. <b>12CR1522</b><br><div style="font-size: 2em; font-weight: bold; text-align: center;">Redacted</div> Division 26 |
| DOUGLAS K. WILSON, Colorado State Public Defender<br>Daniel King (No. 26129)<br>Tamara A. Brady (No. 20728)<br>Chief Trial Deputy State Public Defenders<br>1300 Broadway, Suite 400<br>Denver, Colorado 80203<br>Phone (303) 764-1400 Fax (303) 764-1478<br>E-mail: <a href="mailto:state.pubdef@coloradodefenders.us">state.pubdef@coloradodefenders.us</a> |  |
| <b>MOTION TO PRECLUDE EXPERT OPINION TESTIMONY CONCERNING<br/>         FIREARMS, BALLISTICS, AND TOOLMARK IDENTIFICATION, PURSUANT TO<br/>         CRE 702 AND 403, DUE PROCESS, AND PEOPLE V. SHRECK, 22 P.3D 68 (COLO.<br/>         2001) [D-110]</b>   |  |

**CERTIFICATE OF CONFERRAL**

The District Attorney states that they object to the motion, and that they will file a response.

Mr. Holmes moves this Court for a hearing on, and/or an order precluding, expert opinion testimony concerning firearms, ballistics, and toolmark identification and states:

1. The prosecution has endorsed witnesses (including Dale Higashi and Alan Hammond with the Colorado Bureau of Investigation) who apparently have performed firearm and ballistics analysis in this case. Mr. Holmes objects to the admission of any and all expert opinion testimony concerning firearms, ballistics, and/or toolmark identification that the prosecution intends to introduce at trial through them or any other expert witness. Mr. Holmes objects under CRE 702, 403, and *People v. Shreck*, 22 P.3d 68 (Colo. 2001); *Kumho Tire. Co. v. Carmichael*, 526 U.S. 137 (1995); *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993); and the state and federal due process clauses. U.S. Const. amends. V, XIV; Colo. Const. art. II, sec. 25.

**General Legal Principles**

2. Admissibility of expert testimony is governed by CRE 403, 702 and other pertinent evidentiary rules. The reliability of expert testimony (or lack thereof) also implicates

due process. U.S. Const. amends. V, XIV; Colo. Const. art. II, sec. 25. The Colorado Supreme Court has explained how a trial court must evaluate proposed expert testimony under CRE 702 and CRE 403:

We hold that CRE 702, rather than [*Frye v. United States*, 293 F. 1013(D.C. Cir. 1923)] is the appropriate standard for determining the admissibility of scientific evidence in Colorado. We hold that under this standard, the focus of a trial court's inquiry should be on whether the scientific evidence is reasonably reliable and whether it will assist the trier of fact, and that such an inquiry requires a determination as to (1) the reliability of the scientific principles, (2) the qualifications of the witness, and (3) the usefulness of the testimony to the jury. We also hold that when a trial court applies CRE 702 to determine the reliability of scientific evidence, its inquiry should be broad in nature and consider the totality of the circumstances of each specific case. In doing so, a trial court may consider a wide range of factors pertinent to the case at bar. The factors mentioned in [*Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993)] and by other courts may or may not be pertinent, and thus are not necessary to every CRE 702 inquiry. In light of this liberal standard, a trial court should also apply its discretionary authority under CRE 403 to ensure that the probative value of the evidence is not substantially outweighed by unfair prejudice. Finally, we hold that under CRE 702, a trial court must issue specific findings as it applies the CRE 702 and 403 analyses.

*People v. Shreck*, 22 P.3d 68, 74 (Colo. 2001).

3. Courts have a responsibility to ensure that evidence admitted at trial is sufficiently reliable so that it may be of use to the finder of fact who will draw the ultimate conclusions of guilt or innocence. That concern implicates principles of constitutional due process. "Reliability [is] the linchpin in determining admissibility" of evidence under a standard of fairness that is required by the Due Process Clause of the Fourteenth Amendment. *Manson v. Brathwaite*, 432 U.S. 98, 114, 97 S. Ct. 2243, 2253, 53 L. Ed. 2d 140, 154 (1977); U.S. Const. amend. XIV; Colo. Const. art. II § 25.

4. In addition, Mr. Holmes asserts that in assessing this evidence, the Court should consider the heightened reliability required in this case under the Eighth Amendment and section II, article 20 of the Colorado Constitution. *See, e.g., Beck v. Alabama*, 447 U.S. 625, 637 (1980) (risk of unreliable conviction "cannot be tolerated" in case where defendant's life is at stake); *Herrera v. Collins*, 506 U.S. 390, 434 (1993) ("The decision in *Beck* establishes that, at least in capital cases, the Eighth Amendment requires more than reliability in sentencing. It also mandates a reliable determination of guilt."); *People v. Young*, 814 P.2d 834, 846 (Colo. 1991); *People v. Rodriguez*, 786 P.2d 1079 (Colo. 1989).

5. Further, where there is a question regarding the reliability of certain types of expert evidence, not just scientific, the courts need to determine outside the presence of the jury whether the evidence is unreliable and should not be presented to the jury. *See e.g. People v. Shreck*, 22 P.3d 68 (Colo. 2001) (“The focus of a Rule 702 inquiry is whether the scientific evidence proffered is both reliable and relevant”); *see also Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 142 (1999).

[T]he United States Supreme Court expanded *Daubert's* [*v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993)] general holding concerning the trial judge's gatekeeping function to testimony based not only on scientific knowledge, but also to testimony based on technical and "other specialized" knowledge. *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 142 (1999).

*People v. Shreck*, 22 P.3d 68, 74 (Colo. 2001).

6. Under *Shreck, supra*, and CRE 702 where scientific, technical, or other specialized expert testimony and evidence is involved, a “trial court’s CRE 702 determination must be based upon specific findings on the record as to the helpfulness and reliability of the evidence proffered.” *Id.* at 78. The trial court must also make “specific findings” under CRE 403 as to whether the probative value of the proffered evidence is substantially outweighed by its prejudicial effect. *Id.* *Shreck* clearly requires the trial courts, before admission of expert testimony, to make “specific findings as it applies the CRE 702 and 403 analyses.” *Id.* at 70.

7. In *Goebel v. Denver Rio Grande Western Railroad Co.*, 215 F.3d 1083 (10th Cir. 2000) the district court denied the defendant’s request for a pretrial hearing under *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), challenging the testimony of a medical doctor who said that the plaintiff’s brain damage was caused by exposure to diesel fumes. When the defendant objected to the testimony during trial, the district court said only “there is sufficient foundation here for the jury to hear this testimony.” *Goebel, supra*, at 1087.

8. On appeal, the Tenth Circuit reversed the case, finding that the district court failed to exercise its gatekeeping duties. The court distinguished between how the district court conducts its analysis under Rules 702 and 403, reviewed on appeal for abuse of discretion, and whether the district court fulfilled its gatekeeping function, reviewed on appeal de novo: “[w]hile the district court has discretion in the manner in which it conducts its *Daubert* analysis, there is no discretion regarding the actual performance of the gatekeeper function.” *Id.* Since the district court had never stated its reason for admitting the expert’s testimony, it could not be examined on appeal. The court held that “a district court, when faced with a party’s objection, must adequately demonstrate by specific findings on the record that it has performed its duty as gatekeeper.” *Id.* at 1088.

## Firearms, Ballistics, and Toolmark Identification Testimony

9. Colorado has recognized that expert testimony regarding firearms and toolmark identification is subject to the dictates of CRE 702. *See e.g. People v. Williams*, 790 P.2d 796 (Colo. 1990).

10. In recent years, forensic firearms and toolmark identification testimony has been increasingly recognized by scholars, courts, and the scientific community as lacking in sufficient reliability.

11. In 2009, the National Research Council of the National Academy of Sciences published a report to Congress identifying the needs of the forensic science community, which has brought to light the serious problems with various types of forensic evidence on a national scale. *See* The Comm. on Identifying the Needs of the Forensic Sci. Cmty., Nat'l Research Council of the Nat'l Acads., *Strengthening the Forensic Sciences in the United States: A Path Forward* (2009) [hereinafter NAS Report]. The NAS Report noted several problems with firearm identification. The NAS Report concluded that "the scientific knowledge base for tool mark and firearms analysis is fairly limited." *Id.* at 154. In order to make the process of individualization more precise and repeatable, the report concluded "additional studies should be performed." *Id.* The report further concluded that the protocol developed by the Association of Firearms and Toolmark Examiners ("AFTE") detailing when an examiner may reach a certain conclusion – which is the industry standard by which examiners conduct their examinations – was not defined in a sufficiently precise way for examiners to follow, particularly in relation to when an examiner can "match" two samples. The report berated the protocol, stating "[t]his AFTE document, which is the best guidance available for the field of tool mark identification, does not even consider, let alone address, questions regarding variability, reliability, repeatability, or the number of correlations needed to achieve a given degree of confidence." *Id.* at 155.

12. In addition, one of the main problems with the firearms identification methodology is that the final conclusion is subjective:

[The] determination of a match is always done through direct physical comparison of the evidence by a firearms examiner, not the computer analysis of images . . . . [E]ven with more training and experience using newer techniques, the decision of the toolmark examiner remains a subjective decision based on unarticulated standards and no statistical foundation for estimation of error rates.

*Id.* at 153-154.

13. A similar report published by the National Research Council in 2008, specifically on "Ballistic Imaging," concluded that "[t]he validity of the fundamental assumptions of uniqueness and reproducibility of firearms-related toolmarks has not yet been fully demonstrated." *See* Nat'l Research Council of the Nat'l Acads., *Ballistic Imaging* 81 (2008),

cited in Paul C. Giannelli & Susan Friedman, The National Academy of Sciences' Forensics Report, 45 Crim. L. Bull. 1109, 1130 (2009). Further, this Report criticized the type of expert opinion testimony that is frequently provided in this area:

[E]xaminers tend to cast their assessments in bold absolutes, commonly asserting that a match can be made “to the exclusion of all other firearms in the world.” Such comments cloak an inherently subjective assessment of a match with an extreme probability statement that has no firm grounding and unrealistically implies an error rate of zero.

Nat'l Research Council of the Nat'l Acads., *Ballistic Imaging* 82 (2008); *see also United States v. Green*, 405 F. Supp. 2d 104, 107 (D. Mass. 2005).

14. Many scholars have recognized the limitations of firearms and toolmark identification testimony, and have called for limitations on, or exclusion of, such testimony. *See e.g.* Adina Schwartz, *A Systemic Challenge to the Reliability and Admissibility of Firearms and Toolmark Identification*, 6 Columbia Sci. & Tech. L. Rev. 1 (2005); Sarah Lucy Cooper, *The Collision of Law and Science: American Court Responses to Developments in Forensic Science*, 33 Pace L. Rev. 234 (Winter 2013); Note, Bonnie Lanigan, *Firearms Identification: The Need for a Critical Approach to, and Possible Guidelines for, the Admissibility of “Ballistics” Evidence*, 17 Suffolk J. Trial & App. Advoc. 54 (2012); Paul C. Giannelli, *Ballistics Evidence Under Fire*, Criminal Justice v.25, no.4 (American Bar Association, Winter 2011). In addition, recent court decisions have recognized the limitations on such testimony and imposed restrictions on its form or admissibility. *See e.g. Green, supra; United States v. Glynn*, 578 F.Supp.2d 567 (S.D.N.Y. 2008); *see also Sexton v. State*, 93 S.W.3d 96 (Tex. Crim. App. 2002) (finding that, even if ballistics or firearm identification might be reliable and admissible in some cases, there was an insufficient showing that the techniques employed in this case were reliable and therefore the testimony should have been excluded).

15. In her article, Prof. Adina Schwartz argued that “because of . . . systemic scientific problems, firearms and toolmark identification testimony should be inadmissible across-the-board.” Schwartz, *supra*, 6 Columbia Sci. & Tech. L. Rev. 1 (2005).

16. Mr. Holmes asserts that such scientific, technical and specialized techniques, and any opinions derived therefrom, must be determined to be reliable and admissible pursuant to *Shreck* and CRE 702 and 403 prior to any testimony related to such techniques and resulting opinions being presented to the jury. Admission of unreliable evidence and opinion testimony would not only violate the rules of evidence but also Mr. Holmes' constitutional right to due process of law under the state and federal constitutions. Further, this Court must determine whether any opinions derived from such techniques – if those techniques are determined to be reliable - are actually helpful to the jury under CRE 702 and admissible pursuant to CRE 403. Without such determinations, this Court should enter an order precluding the admission of any such expert testimony at trial.

17. In addition to proving reliability generally, the prosecution must establish that the actual procedures used are reliable *and* that the “experts” who made the comparison in this case are qualified to render an expert opinion. This depends upon whether the proposed expert utilized procedures recognized as reliable in the field, and whether relevant personnel are properly trained and tested.

**Request for a Hearing**

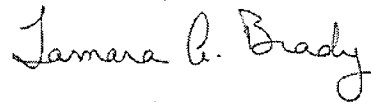
18. Mr. Holmes moves for an evidentiary hearing on this motion.

Mr. Holmes files this motion, and makes all other motions and objections in this case, whether or not specifically noted at the time of making the motion or objection, on the following grounds and authorities: the Due Process Clause, the Right to a Fair Trial by an Impartial Jury, the Rights to Counsel, Equal Protection, Confrontation, and Compulsory Process, the Rights to Remain Silent and to Appeal, and the Right to be Free from Cruel and Unusual Punishment, pursuant to the Federal and Colorado Constitutions generally, and specifically, the First, Fourth, Fifth, Sixth, Eighth, Ninth, Tenth, and Fourteenth Amendments to the United States Constitutions, and Article II, sections 3, 6, 7, 10, 11, 16, 18, 20, 23, 25 and 28 of the Colorado Constitution.



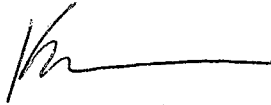
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Deputy State Public Defender

Dated: June 3, 2013

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| District Court, Arapahoe County, Colorado<br>Arapahoe County Courthouse<br>7325 S. Potomac St., Centennial, CO 80112  |   |
| THE PEOPLE OF THE STATE OF COLORADO,<br>Plaintiff<br><br>v.<br><br><b>JAMES HOLMES,</b><br>Defendant  | σ COURT USE ONLY σ  |
| DOUGLAS K. WILSON, Colorado State Public Defender<br>Daniel King (No. 26129)<br>Tamara A. Brady (No. 20728)<br>Chief Trial Deputy State Public Defenders<br>1300 Broadway, Suite 400<br>Denver, Colorado 80203<br>Phone (303) 764-1400 Fax (303) 764-1478<br>E-mail: <a href="mailto:state.pubdef@coloradodefenders.us">state.pubdef@coloradodefenders.us</a> | Case No. <b>12CR1522</b><br><br><br><br><br><br><br><br><br><br><br>Division 26 |
| <p style="text-align: center;"><b>ORDER RE: MOTION TO PRECLUDE EXPERT OPINION TESTIMONY<br/>         CONCERNING FIREARMS, BALLISTICS, AND TOOLMARK IDENTIFICATION,<br/>         PURSUANT TO CRE 702 AND 403, DUE PROCESS, AND PEOPLE V. SHRECK, 22<br/>         P.3D 68 (COLO. 2001) [D-110]</b></p>  |   |

Defendant's motion is hereby GRANTED \_\_\_\_\_ DENIED \_\_\_\_\_.

BY THE COURT:

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JUDGE

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Dated

I hereby certify that on June 3rd, 2013, I

mailed, via the United States Mail,

faxed, or

hand-delivered

a true and correct copy of the above and foregoing document to:

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Jacob Edson

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Nora Johnston