

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Criminal No.: 03-10329-PBS

UNITED STATES OF AMERICA,)
)
v.)
)
1. Amando B. Monteiro, a/k/a “Manny”)
or “Suega”)
2. Brima A. Wurie, a/k/a “BJ”)
3. Thomas W. Ross, a/k/a “Bone”)
4. Jackson Nascimento,)
5. Angelo Brandao,)
6. Jarrid R. Campbell, a/k/a “Guap”)
7. Kamal Lattimore, a/k/a “K”)
8. Louis Rodrigues,)
9. Manuel Lopes, a/k/a “Manny” or “J”)
10. Lance C. Talbert, a/k/a “Cheese”)
11. Valdir Fernandes)
12. David Deburgo, and)
13. Jelson Depina, a/k/a “Tooth”)
)
Defendants.)
)

**MEMORANDUM OF LAW IN SUPPORT OF DEFENDANT’S
MOTION *IN LIMINE* TO EXCLUDE BALLISTICS EVIDENCE,
OR ALTERNATIVELY, FOR A *DAUBERT HEARING*¹**

I. INTRODUCTION

The government intends to offer in its case-in-chief at trial, testimony of a Massachusetts State Police ballistics expert, Sergeant Douglas Weddleton, that particular ammunition found at three crime scenes was fired from two particular guns. In the case of the gun allegedly used in

¹ This Memorandum must be read in conjunction with the Affidavit of David J. LaMagna in Support of Defendant’s Motion in Limine to Exclude Ballistics Evidence filed herewith. The discussion in the LaMagna Affidavit of the general principles of firearms analysis, the failure of the proffered evidence to meet the Frye standard of generally accepted methodology, studies invalidating the IBIS computerized database and its results, the availability of technology that could readily be used to improve firearms examinations results, criticisms of other forensic sciences, and Mr. LaMagna’s expert opinion concerning the evidence proffered in this case have not, as is sometime the case in legal drafting, been repeated in their entirety (or in the case of some topics such as the general principles of firearms analysis including the lack of objective standards, known error rates, etc. have not been repeated in this Memorandum at all).

the Fernandez murder, the evidence must be stricken because the reconstruction of the gun, replacing parts critical to the supposed firearms analysis including the firing pin, firing pin spring, retainer plate, barrel, recoil spring, spring retainer, ball spring and ball, ball spring guide and trigger lever, and the corrosion of any non-replaced parts, renders any identification impossible. In the case of both guns, because the government's expert does not divulge the facts or observations on which he based his conclusions, or the standards he applied to reach his conclusions, it is entirely possible that his testimony does not meet even the generally accepted standards of forensic firearms identification. Moreover, even if it did, the evidence is inadmissible under Rule 702 because the officer's conclusions were not in fact the product of reliable principals and methodology.

The purported expert testimony is based on faulty assumptions - such as that all guns leave unique marks on bullets and casings fired through them - which the government has, in prior cases, admitted is no longer the case, given modern manufacturing methods and materials. The purported expert testimony is also utterly subjective and standardless with no requirement as to how many similarities it takes to declare "match" or how many differences it takes to rule one out. Most troubling, the Massachusetts State Police, like the vast majority of local, state and federal ballistics examiners, make no attempt to utilize modern measurement equipment to more accurately measure the alleged "toolmarks" to obtain a more accurate and quantifiable comparison that can be subject to statistical analysis. Indeed, the Massachusetts State Police does not even produce photomicrographs of the comparison images, which has been standard practice for ballisticians for well over fifty years. Sergeant Weddleton and his colleagues refuse to use available equipment because they lack the scientific training needed to use such equipment and to analyze the resulting data. The government has failed to meet its burden of establishing

that the proper expert testimony is based on a valid and reliable methodology, or even "good grounds based on what is known," and, therefore, is inadmissible.

II. BACKGROUND

In this case, the government alleges that 13 defendants engaged in a wide variety of criminal activity over a seven-year period as members and associates of a "violent" Boston based street gang known as the "Stonehurst Street Crew" ("Stonehurst"). First superceding indictment, ¶1. The Government alleges that Stonehurst was a criminal organization whose members and associates took part in acts of violence including murders and assaults and acquired and distributed drugs. *Id.*

The charges against Angelo Brandao arise from three incidents that took place in Brockton over less than a two-month period in 1999. *see Id.* at ¶¶16, 17, 26, Count 33. Brandao is charged with the murder of Dino Fernandes on March 17,1999, the attempted shooting of Antonio Diaz on April 27, 1999 and the attempting shooting of Alcides DePina on May 14, 1999 *Id.*

The government intends to prove its case against the defendant with testimony of Massachusetts State Police ballisticsian Sergeant Douglas Weddleton. Sergeant Weddleton opines that spent shell casings found at the scenes of each of the three shootings, "match" test firings from a substantially reconstructed 9 mm FEG FP 9, Browning High-Power style firearm, in the case of the Fernandes murder, and test firings from a 9 mm Ruger firearm, with respect to both the Diaz and DePina shootings. With respect to each purported "match," the government has provided a one-sheet report setting forth the bald conclusion that test firings from the guns "matched" cartridge casings recovered at the scenes. With respect to the DePina shooting, the

government provided, in addition to the conclusory report, a single page IBIS printout which, even upon a lay examination of a poor photocopy, does not suggest a match.

In violation of the court's explicit order, the government has provided no statement, pursuant to Rule 16 (a)(1)(G) setting forth the nature and grounds of the governments proffered expert testimony, nor has the government produced photomicrographs of any comparison microscope image upon which the expert purports to base his conclusion of a "match".

Sergeant Whettlon did not test-fire any other gun of the same make and model to see whether the marks which he observed would have been left on the casing by all such models, instead of just the particular guns in this case. The officer did not describe or quantify the marks that led him to determine that there was a match. The officer did not refer to any external validation studies which would establish that each and every high-power clone or Ruger leaves unique marks on a given casing after it is fired through the gun. Because the officer did not even describe the location or type of marks which he observed in determining that there was a match, we do not know whether those marks are of the type and placement which are traditionally relied upon by firearms experts in identifying a particular weapon, as opposed to simply identifying the make of gun, from which a cartridge or casing was fired. Sergeant Whettlon did not use a scanning electronic microscope or other modern measuring equipment that could have more accurately measured the marks upon which he claims to have based his comparison and provided quantifiable data subject to statistical analysis. In fact, Sergeant Whettlon does not have the education or training necessary to operate such equipment or to conduct the necessary statistical analysis on the data that would be obtained from such an examination.

III. FACTS

For a discussion of the general principals of firearms analysis, the failure of the proffered evidence to meet the Frye standard of generally accepted methodology, studies invalidating the IBIS computerized database and its results, the availability of technology that could be readily used to improve firearm examination results, a summary of criticism of other forensic sciences, and the defendants expert opinion, that the extent of replacement parts used to test fire the High-Power clone prohibits the declaration of a “match” with evidence from the Fernandez shooting, and second, that none of the governments expert testimony is based on “good grounds based on what is known,” see *Affidavit of David J. LaMagna in Support of Defendants Motion in Limine to Exclude Ballistics Evidence* filed herewith.

IV. ARGUMENT

A. Expert Testimony Is Not Admissible Unless The Proponent Of The Testimony Establishes That The Testimony Is Both Reliable And Relevant.

A trial judge "faced with a proffer of expert scientific testimony, [. . .] must determine at the outset, pursuant to rule 104(a), whether the expert is proposing to testify to 1) scientific knowledge that (2) will assist the tryer of fact to understand or determine a fact in issue." *Daubert v. Merrill Dow Pharmaceuticals* ("Daubert"), 509 U.S. 579, 592, 113 S. Ct. 2786, 2796 (1993). A court performing this inquiry must make a preliminary assessment of, first, "whether the reasoning or methodology underlying the testimony is scientifically valid" and second, "whether that reasoning or methodology properly can be applied to the facts in issue." *Id.* In other words, before proffered expert testimony may be admitted, the trial judge must "ensure that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." *Id.* at 597. The trial judge's gate-keeping obligation to ensure that any and all testimony "is not only relevant, but reliable" applies to "all expert testimony," regardless of whether the expert testifies

or purports to testify on the basis of scientific, technical or other specialized knowledge. *Kuhmo Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147, 119 S. Ct. 1167, 1174 (1999) quoting *Daubert*, 509 U.S. at 589, 113 S. Ct. at 2786.

In April 2000, Rule 702 of the Federal Rules of Evidence was amended to reflect the principles set forth in the *Daubert* case and other subsequent case law. Fed. R. Evidence R. 702, *Notes of Advisory Committee on 2000 Amendments*. Rule 702, as amended, provides:

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. Evidence R. 702.

1. Burden of Proof.

The burden is on the proponent of expert testimony to establish a *prima facie* case that the evidence satisfies the requirements of Rule 702. *Daubert v. Merrill Dow Pharmaceuticals*, 43 F.3d. 1311, 1319 in Note 10 (9th Cir. 1995). To make such a showing, the expert must explain the methodology used to reach the relevant conclusions and point to external sources to validate that methodology. *Id.* at 1319. Where the court is presented “only the experts’ qualifications, their conclusions and their assurances of reliability . . . [u]nder *Daubert* that is not enough.” *Id.* If the proponent of the expert testimony makes a *prima facie* showing that the testimony meets the requirements of Rule 702, the opposing party is then entitled to challenge that showing. Where the opposing party raises a material dispute as to the admissibility of expert scientific evidence, the court will then hold an *in limine*, so-called “*Daubert* Hearing,” to consider the methodology employed by the scientific experts. *Id.* at Note 10. The ultimate

burden to establish the proffered testimony meets the requirements of Rule 702, rests with the proponent of that evidence. *See* Fed. R. Civ. P. 104 (a) and 702.

2. Reliability.

In determining the reliability of proffered expert testimony, the focus is on principles and methodology, not on the conclusions they generate. *Daubert*, 509 U.S. at 595, 113 S. Ct. at 2797. "Proposed testimony must be supported by appropriate validation, *i.e.*, 'good grounds' based on what is known." *Daubert*, 509 U.S. at 590. The reliability inquiry is a flexible one, with substantial discretion left to the trial judge to determine how to evaluate the reliability of a particular expert's testimony. *Kumho Tire Co., Ltd. v. Carmichael* ("*Kumho*"), 526 U.S. 137, 141, 152, 119 S. Ct. 1167, 1171, 1176 (1999). The *Daubert* Court identified five non-exclusive factors to be considered in evaluating reliability: (1) whether the theory or technique can be and has been tested, (2) whether the theory or technique has been subject to peer review and publication, (3) whether a particular scientific technique has a known or potential rate of error, (4) whether standards controlling the technique's operation exists and are maintained, and (5) whether the technique is generally accepted in the relevant scientific community. *Daubert*, 509 U.S. at 593-594, 113 S. Ct. at 2796-2797. However, "*Daubert's* list of specific factors neither necessarily nor exclusively applies to all experts or in every case." *Kuhmo*, 526 U.S. at 141, 119 S. Ct. at 1171. On the one hand, factors listed in *Daubert* will not always be applicable or instructive. For example, presence of the general acceptance factor will not "help show that an expert's testimony is reliable where the discipline itself lacks reliability." *Kuhmo*, 526 U.S. at 151, 119 S. Ct. at 1175. On the other hand, additional factors not specified in *Daubert* may be appropriately considered, such as whether the expert's proposed testimony concerns research

conducted independent of litigation (as opposed to opinions developed expressly for the purposes of testifying), *Daubert*, 43 F.3d at 1317, and whether the expert has considered alternative explanations for the opinion, *Claar v. Burlington N.R.R.*, 29 F. 3d 499, 502 (9th Cir. 1994).

The Court must ensure "that in each step, from initial premise to ultimate conclusion, the expert faithfully followed valid scientific methodology. In other words, this Court need not accept as scientifically reliable any conclusion that "good science does not permit to be drawn from the underlying data but which instead constitutes 'unsupported speculation.'" *Hall v. Baxter Healthcare Corp.*, 947 F. Supp. 1387, 1401 (D. Or.). In this regard "[a] court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." *General Electric Co. v. Joyner*, 522 U.S. 136, 146, 118 S. Ct. 512, 519 (1997).

3. Relevance.

Expert testimony should be excluded where it is irrelevant to the issues in the case. *See Daubert*, 509 U.S. at 591-592, 113 S. Ct. at 2795-2796 ("Expert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful"). "[A] valid scientific connection to the pertinent inquiry [is] a precondition of admissibility." *Id.* The relevance inquiry is an important one because "scientific expert testimony carries special dangers to the fact-finding process because it 'can be both powerful and quite misleading because of the difficulty in evaluating it.'" *Daubert*, 43 F.3d at 1321 n. 17 (quoting *Daubert*, 509 U.S. at 595). "Federal judges must therefore exclude proffered scientific evidence under Rules 702 and 403 unless they are convinced that it speaks clearly and directly to an issue in dispute in the case and that it will not mislead the jury." *Id.*

The relevance inquiry is sometimes known as the "fit" inquiry. *Daubert*, 509 U.S. at 591, 113 S. Ct. at 2796. "Fit is not always obvious, and scientific validity for one purpose is not

necessarily scientific validity for other, unrelated purposes." *Id.* The Ninth Circuit's opinion in *Daubert* on remand illustrates the relevancy or fit inquiry. Under California law, the plaintiff in that case was required to establish that ingestion of the drug at issue – Benedictine – more than doubled the likelihood that a child would suffer birth defects. The plaintiff's experts had testified that Benedictine increased the likelihood of birth defects, but there was no testimony or studies to show that the chances had doubled. The Appeals Court determined that the expert testimony proffered by the plaintiffs' epidemiologists did not meet the standards of relevancy. The court explained that "while plaintiff's epidemiologists make vague assertions that there is a statistically significant relationship between Benedictine and birth defects, none states that the relative risk is greater than two. These studies thus would not be helpful and indeed would only serve to confuse the jury if offered to prove, rather than refute, causation." *Daubert*, 43 F.3d at 1321. The Court summed up by demonstrating the relationship between the reliability-relevance-undue prejudice standards of Rules 702 and 403. "Dr. Palmer's testimony [that Benedictine caused birth defects] would easily meet Rule 702's fit requirement were it not rendered inadmissible by the total lack of scientific basis for his conclusions . . . Dr. Palmer's testimony thus illustrates how the two prongs of 702 work in tandem to ensure that junk science is kept out of the federal courtroom." *Id.* at 1322 and n. 18.

B. Applicability Of *Daubert/Kuhmo* Standard To Other Forensic Sciences.

Following the court's ruling in *Daubert*, defendants have challenged the admissibility of a variety of expert forensic evidence, including handwriting analysis, latent fingerprint analysis, field sobriety tests, voice identification, hair comparison, and bite mark comparison. "[I]n each area little rigorous systematic research has been done to validate the discipline's basic premises and technique and in each area there is no evident reason why such research would be infeasible.

In many of these areas, some courts may demand more by way of validation than the disciplines can presently offer.” Giannelli and Imwinkelried, *Scientific Evidence: The Fallout from Supreme Court’s Decision in Kuhmo Tire*, Criminal Justice Magazine, published by the Section of Criminal Justice, American Bar Association, Winter 2000, Vol. 14, No. 4, p. 40.

1. Handwriting Analysis - Hines.

Beginning with Judge Gertner’s decision in *United States v. Hines*, 55 F. Supp. 2d 62 (D. Mass. 1999), numerous courts have now limited the scope of expert testimony in the area of handwriting analysis; although the expert may still describe points of comparison between two samples of handwriting, courts have refused to allow the expert to testify as to the ultimate authorship of the handwriting sample in question.

In *Hines*, Judge Gertner excluded the testimony of an FBI document examiner as to the authorship of a “stick-up” note found at the scene of a crime. The court found that the expert’s testimony met virtually none of *Daubert’s* standards for reliability. “There are no meaningful and accepted validity studies in the field. . . . This is a ‘field’ that has little efficacy outside of a courtroom. There are no peer reviews of it.” *United States v. Hines*, 55 F. Supp.2d at 69. The court noted that it had been presented with no information regarding the examiner’s error rate, the times she has been right versus the times she has been wrong, nor could anyone compare the opinion reached by the examiner with a standard protocol subject to validity testing since there were no recognized standards. There was no agreement as to how many similarities it takes to declare a “match” or how many differences it takes to rule one out. *Id.* at 69. The court compared the proffered testimony to “one on one show-ups,” a form of eyewitness identification disfavored as unduly suggestive. The court noted that there was no evidence that the handwriting expert could have selected the defendant’s handwriting as most similar to the

robbery note out of a line-up of similar handwriting exemplars. Hence, the testimony was inherently unreliable.

The court did permit the expert to testify as to the particular points of comparison between the robbery note and the defendant's handwriting on the ground that both lay witnesses and jurors would be permitted, based on their own experience, to make comparisons between the handwriting at issue. "The ability of the jury to perform its own visual comparison cut against any danger of undue prejudice" in permitting the expert to point out points of comparison without testifying that there was a "match." *Id.* at 70 n.21 (citing *United States v. Buck*, 1987 WL 19300 (S.D.N.Y. 1987)). District courts in Nebraska and New Jersey have similarly rejected handwriting and text analysis testimony, respectively, for failure to meet *Daubert's* validity and reliability requirements. *United States v. Rutherford*, 104 F. Supp.2d 1190 (D. Neb. 2000)(holding that handwriting analysis testimony on unique identification lacks both the validity and reliability of other forensic evidence); *United States v. Van Wyk*, 83 F. Supp.2d 515, 523 (D.N.J. 2000) (holding that, like handwriting analysis, text analysis is questionable because there is no known rate of error, no recognized standard, no meaningful peer review, and no system of accrediting an individual as an expert in the field). *See also United States v. Santillan*, No. CR-96-4016, 1999 WL 1201765 (N.D.Cal. Dec. 3, 1999).

2. Latent Fingerprints.

Although no Massachusetts court has yet excluded fingerprint evidence for failing to meet the *Daubert* standard, recently, an erroneous declaration of a "match" that led to a faulty conviction has come to light here in the Commonwealth. *Steven Cowens* was convicted of shooting a Boston Police Officer and sentenced to prison for thirty to forty-five years, based on the analysis of a fingerprint left on a glass of water. He was later exonerated, after serving six

years of his sentence, when DNA test on clothing, at the scene of the crime, and saliva from the glass did not match Cowens DNA. See "*A Blow To The Credibility Of Fingerprint Evidence*" the *Boston Globe*, February 2, 2004, Jennifer Mnookin, Exhibit II to the LaMagna Affidavit. The case led to further revelation of deficiency in the Boston Police Department Fingerprint Unit requiring the unit to be shut down. A suggestion to hire civilian scientists to examine fingerprints was expected to draw criticism from the union representing Boston Police Officers, who, although they have no scientific training, have historically held fingerprint examiner jobs. See "*Print backlog costs cops \$30G a month Michele McPhee*", *Boston Herald*, February 18, 2005, pg. 004. Exhibit JJ to the LaMagna Affidavit.

Meanwhile, in response to substantial challenges brought by defendants, the government has begun to commission nationwide and international surveys as well as experimentation, to attempt to show a valid methodology to support the admissibility of the proffered expert testimony. For example, fingerprint evidence was admitted by the Federal District Court in Pennsylvania in *United States v. Mitchell*, 365 F. 3d 215, 222 (3rd Cir. 2004), but only after the government offered substantial evidence in the course of a five day *Daubert* hearing, including calling six witnesses and introducing evidence of a nationwide and international survey and experiments that the government had commissioned to establish the reliability of its methodology.

Similarly, in *United States v. Plaza*, Judge Pollak of the Eastern District of Pennsylvania first excluded fingerprint analysis testimony proffered by the government on the ground that it failed to meet *Daubert's* standard of reliability and then, upon reconsideration, reversed that decision. *United States v. Plaza*, 188 F. Supp. 2d 549, 571 (E.D. Pa 2002). In his initial decision, Judge Pollak, following Judge Gertner's reasoning in *Hines*, ruled that the method of comparison

used by the “experts” did not meet *Daubert’s* reliability standards, rejecting the government’s assertion that the technique had been “tested” in court for over 100 years. *Id.* at 552. Judge Pollak reversed his decision only after the government came forward with extensive expert testimony regarding the history and technique of fingerprint analysis, the training, certification and annual testing of FBI certified experts, and the common standard used around the world in analyzing subject fingerprints.

In both *Plaza* and *Mitchell*, the district courts premised their decisions to admit the evidence on findings that the technique of fingerprint analysis, while not itself a science, is “rooted in science” - specifically the scientific fact “that fingerprints are unique and permanent,” of which the courts took judicial notice.² *Id.* at 560. Both courts also noted and relied upon the fact that the defense had offered no evidence that FBI certified examiners were not competent as a group and had presented no examples of erroneous identifications by FBI certified examiners. *Mitchell*, at 240.

Furthermore, the Third Circuit in *Mitchell* noted that the expert testimony was properly admitted where the governments' experts did not engage in improper “stonewalling,” i.e., refusing to discuss error rates or the relative subjectivity or objectivity of their methods. The Third Circuit did note, however, that testimony insisting “that there is no error rate associated with their activities or that the examination process is irreducibly subjective” would be “out of place under Rule 702” and subject to exclusion. *Id.* at 246.

In short, Judge Pollak “changed his mind” and the *Mitchell* court admitted the evidence, but not before requiring the government to proffer substantial evidence of the reliability and efficacy of the expert testimony offered, evidence which the government had not before been

² The Court of Appeals for the Third Circuit found that district court had committed error in taking judicial notice of the uniqueness and permanence of the fingerprints, but determined that that error was harmless in the context of the five day evidentiary hearing at which ample evidence was presented by the government from which the fact could have been found, rather than judicially noticed. *Mitchell*, at 251-254.

called upon to produce.³ *Id.* Moreover, both the *Plaza* and *Mitchell* courts may well have reached a different conclusion had the defendant offered any evidence of failure of the technique, which we now have in Massachusetts.

3. Field Sobriety Tests.

Similarly, the District Court of Maryland has taken a hard look at long accepted field sobriety tests and determined that they are not admissible as direct evidence of intoxication or impairment. In *United States v. Horn*, Judge Grimm recognized that, under Frye’s general acceptance standard, and with the impact of *stare decisis*, it was all too easy for a body of case law to develop “stating that a methodology had achieved general acceptance without there ever having been a contested, detailed examination of the underpinnings of that methodology”. *United States v. Horn*, 185 F. Supp. 2d 530, 554 (D. Md. 2002). The court found that this was indeed the case with respect to field sobriety tests. The Court found that there were no validation studies sufficient to establish the reliability of field sobriety tests to establish specific blood alcohol content. The court also found that, “However skilled law enforcement officials, highway safety specialists, prosecutors, and criminologists may be in their fields, the record before me provides scant comfort that these communities have the expertise needed to evaluate the methods and procedures underlying human performance tests such as the SFTSs.” *Id.* at 557. Thus the court excluded proffered expert testimony that a defendant had “passed” or “failed” a specific field of sobriety test or the number of “standardized clues” the suspect had missed. *Id.*

The court did allow officers to testify to their general observations of a suspect performing the field sobriety tests because they constitute the kinds of visual clues that lay persons using ordinary experience associate with reaching opinions about whether someone has

³ Prior to Judge Pollak’s decision in *Plaza*, district courts in Indiana and Puerto Rico had admitted fingerprint identification evidence over defendants’ objections.

been drinking. Similarly, an officer would be permitted to give an opinion as to whether a suspect was intoxicated as long as the officer did not purport to base that opinion on scientific, technical or specialized information. In this, the officer is no different than a lay witness who would similarly be permitted to give an opinion of intoxication based on common observation and experience.

4. Hair Comparison/Voice Identification/Bite-Mark Analysis.

Expert testimony concerning hair comparison, voice identification and bite-mark comparisons have all been subject to the same criticism. In *Williamson v. Reynolds*, the court could not find that the expert hair comparison testimony met any of the requirements of *Daubert* and observed that “although the hair expert may have followed procedures accepted in the community of hair experts, the human hair comparison results in this case were nonetheless scientifically unreliable.” *Williamson v. Reynolds*, 904 F. Supp. 1529, 1558 (E.D. Okla. 1995). The district court decision was subsequently reversed on other grounds, *Williamson v. Ward*, 110 F. 3d 1508, 1523 (10th Cir. 1997), but the defendant was later exonerated by exculpatory DNA evidence, *i.e.*, the hair match was not a match. A 1996 Department of Justice report discussing the exoneration of twenty-eight convicts through the use of DNA technology showed that, in several of these prosecutions, hair analysis was used to obtain the conviction. In one case, the expert had testified that the crime scene hair sample “was unlikely to match anyone other than the defendant,” but DNA evidence proved otherwise. Giannelli and Imwinkelried, *supra* note 19, at 17-18.

Of course, what’s good for the goose is good for the gander. In *United States v. Bahena*, defendants argued on appeal that, among other things, the court had erred in excluding expert testimony regarding voice spectrography. *United States v. Bahena*, 223 F.3d 797 (8th Cir. 2000).

In excluding the testimony, the district court noted that the defendant's expert had had no formal training, was not a member of any professional organization in the field, and was not familiar with the voice-comparison standards accepted in the field. *Id.* at 809-10.

Finally, in *Howard v. State*, the Mississippi Supreme Court reversed a decision of the lower court admitting expert testimony of bite mark comparison, noting that numerous scholarly authorities had criticized the technique and that there was little consensus in the scientific community on the number of points that must match before any positive identification could be claimed. *Howard v. State*, 701 So.2d 274 (Mississippi 1997).

5. Lead Analysis of Bullets

The New Jersey Appeals Court recently reversed a murder and armed robbery conviction that was based on an FBI crime lab technique that matches bullets to crimes by analyzing their lead content. In *New Jersey v. Behn*, 868A 2d. 329 (N.J. Super. Ct. App. Div. 2005), the New Jersey Appeals Court became among the first to overturn a conviction based upon a challenge to the FBI's comparative bullet lead analysis evidence which was determined to be flawed by a study of the National Research Council of the National Academies questioning the scientific validity of the technique. *See* Exhibit KK to LaMagna Affidavit.

C. The Proffered "Expert" Ballistics Testimony Should Be Excluded Because It Fails To Meet The Admissibility Requirements Of *Daubert* And Rule 702.

1. The Government Has Failed To Make A *Prima Facie* Showing That The Proffered Evidence Meets Rule 702.

A review of the expert "reports" provided by the government to the defendant shows that the government has failed to make even a *prima facie* showing that the proffered evidence meets the requirement of Rule 702. Here, the government has provided nothing more than the officer's bald assertions that the cartridge casings delivered to the police "match" a cartridge casing

resulting from a test firing of the recovered firearms. *See* Exhibit C to Defendant's Motion *In Limine* to Exclude Ballistics Evidence. The reports neither "explain the methodology the expert followed to reach his conclusion nor point to any external source to validate that methodology." *Daubert v. Merrill*, 43 F.3d at 1319. The Court is presented "with only the expert qualifications, his conclusions and his assertions of reliability. . . . Under *Daubert*, that is not enough." *Id.* Despite the Court's explicit order, the government failed to comply with Fed. R. Crim. P. 16 (a)(1)(G)'s requirement that it set forth the grounds and basis of the expert opinion, specifically the type and number of marks the expert relied upon in declaring a "match." Because the government has failed to meet its *prima facie* burden, the defendant has no obligation to present evidence that the government's expert employed unsound methodology or failed assiduously to follow an otherwise sound protocol, *Id.* at 1319 and n.10, and the evidence must be excluded.

The government cannot meet its burden under Rule 702, merely by relying on longtime general acceptance of this kind of forensic testimony. As Judge Gertner acknowledged in *Hines*, a Court's reluctance to exclude the proffered evidence because it would be akin to throwing out decades of generally accepted testimony could be "equated with 'grandfathering old irrationality'" *Hines* at 68, n. 13 (*quoting* D. Michael Risinger, et al., *Exorcism of Ignorance As A Proxy For Rational Knowledge: The Lessons of Handwriting Expertise*, 137 U. Pa. L. Rev. 731, 771 n.182 (1989)). As the dissent in *United States v. Crisp* points out, *Daubert* does not permit the government to shift its burden merely by stating that such evidence has been received in the past:

I am not suggesting that fingerprint and handwriting evidence cannot be shown to satisfy *Daubert*. I am only making the point that the government did not establish in Crisp's case that this evidence is reliable. The government has had ten years to comply with *Daubert*. It should not be given a pass in this case.

United States v. Crisp, 324 F. 3d 261, 272 (Michael, J., dissenting).

Similarly, Judge Grimm in the *Horn* case, recognized that field sobriety tests, under the general acceptance standard and with the impact of *stare decisis*, had achieved general acceptance without a detailed examination of the underpinnings of the methodology. Judge Grimm placed the burden of validating the methodology squarely on the government observing that, if the government lacked resources to satisfy its burden, "it can be expected, *a fortiori*, that individual defendants charged with DWI and DUI will have even fewer resources to challenge the science and technology underlying these tests." *Id.* at 551.

Indeed, even in Florida, which retains *Frye's* "general acceptance" test, the Florida Supreme Court rejected tool mark evidence for failure to meet the reliability requirement of even that test. In *Ramirez v. Florida*, 810 So. 2d 836 (2001), the Florida Supreme Court excluded all testimony regarding knife mark identification and reversed the defendant's murder conviction after reviewing the testimony of five AFTE members who provided traditional justification for the identification of striated toolmarks based only on qualitative criteria established through "training and experience". The Court found that these explanations did not satisfy Florida's rigorous *Frye* standards for reliability. The theory and methodology used to identify tool marks from a knife is the same theory and methodology used to identify toolmarks imparted from machining tools on to gun parts that are then transferred to bullets and casings fired through the guns.

The government acknowledged its burden in *Mitchell*, 365 F.3d 215, 223 (3rd Cir. 2004), presenting nationwide and international studies and experiments, conducted post *Daubert* and specifically for that case, to establish the validity and reliability of the methods employed by the proffered handwriting expert witnesses. *See also United States v. Oskowitz*, 294 F. Supp.2d 379, 383 (E.D.N.Y. 2003) (excluding certain government handwriting analysis evidence stating that

"the government has not submitted any material in support of its contention that his evidence should be admitted, aside from citing to other cases and asserting that this testimony meets the requirements of Rule 702"); *United States v. Lewis*, 220 F. Supp.2d 548, 552 (S.D. W.V. 2002) (stating that courts which choose to admit expert evidence by declining a *Daubert* analysis "simply downplay their rejection of the *Daubert* factors by minimizing the importance of reliability"); *United States v. Van Wyk*, 83 f. Supp. at 519 (D. N.J. 2000) (holding that the proponent of the expert testimony bears the burden by a preponderance of proof). *See also United States v. Plaza*, 188 F. Supp. 2d 549 (E.D. Pa 2002).

Indeed, the mind set of those courts that blindly admit proffered forensic testimony without putting the government to its burden to establish the reliability of the underlining methodology is frightening. For example, Judge Marrero, in the Southern District of New York has stated, "the court has not conducted a survey, but it can only imagine the number of convictions that have been based, in part, on expert testimony regarding the match of a particular bullet to a gun seized from a defendant or his apartment. It is the courts view, that the Supreme Court's decision in *Daubert* and *Kumho Tire* did not call this entire field of expert analysis into question." *United States v. Santiago*, 199 F. Supp.2d 101, 111-112 (2002). *See United States v. Hicks*, 389 F. 3d 514, 526 (5th Cir. 2004) (stating that "the matching of spent shell casings to the weapon that fired them has been a recognized method of ballistics testing in this circuit for decades"); *United States v. Crisp*, 324 F. 3d at 271 (4th Cir. 2003) (stating "handwriting [analysis] has a long history of admissibility in this country"); *United States v. Foster*, 300 F. Supp. 2d 375, 377 (D. Md. 2004) (stating that, in addition to the agreement among practitioners of the merits of their subjective measures, "ballistics evidence has been accepted in criminal cases for years"); *United States v. Driscoll*, 2003 U.S. Dist. LEXIS 3370 *4 (D. Pa. 2003)

(stating that *Daubert/Kumho Tire* was not intended to "call [ballistics testing] into question").

This uncritical "grandfathering of old irrationality" is particularly troubling given the recent use of DNA evidence to overturn convictions gained using previously unassailable forensic evidence, such as in the case of *Steven Cowens*, who spent six years in prison for allegedly shooting a Boston Police Officer, after a shoddy fingerprint analysis falsely linked him to the crime.

2. The Proffered Testimony Does Not Meet Even The Traditional Standards For Toolmark Analysis.

The testimony offered here by Sergeant Weddleton does not even meet the standard generally accepted among firearms examiners, a standard that has been set forth and recognized since Colonel Hatcher's seminal treatise on toolmark examination published in 1935 and revised in 1957. *Firearms Investigation, Identification and Evidence*. The government has provided no information as to which type of markings on the casing/bullet the officer used to determine that there was a "match." There is no indication as to whether or to what extent the officer was looking at marks which would be considered class characteristics, marks which all guns of a given type will leave, as opposed to individual characteristics which could possibly be used to identify the specific weapon which fired the shot. Marks left by the ejector/extractor on the casing may be used to identify the type of gun from which the bullet was fired, but not the particular gun of a given make. There is no indication that the officer based his conclusion on the imprint of the firing pin and breach block on the primer cap and cartridge base which, historically at least, have been used by firearms experts to attempt to match the casing to a particular gun as opposed to just a particular make of gun. The government's expert provides no specific description of the marks on which he bases his conclusion, much less photographs of those marks which are generally provided to support the expert's testimony. Thus, the evidence

proffered in this case does not even meet the standard of general acceptability in the field, wholly apart from whether the field itself meets the reliability standard of *Daubert* and *Kuhmo Tire*.

The proffered evidence is particularly suspect because at least one of the government's experts has previously testified that he would be willing to give an opinion of a positive "match," even if he had before him only characteristics known to identify the make and model, but not the individual, firearm used. Specifically, the government has disclosed a supplemental report from ballisticsian Carl Washington of the Boston Police Department. In that report, Mr. Washington concludes that various 9mm spent bullets were fired from two different guns. The report does not indicate the basis for that opinion. A copy of the report is attached to the LaMagna Affidavit. In the *Prochilo* case before Judge Woodlock, however, Mr. Washington testified that, while he understood that certain markings such as magazine lip and ejector markings could only be used to identify the make and model of a firearm and not an individual firearm, if those were the only marks he had to go on, he would declare a match because "that's all you had." See LaMagna Affidavit, *Exhibit V*.

At least one state appeals court has overturned a conviction where a firearms examiner purported to identify cartridge cases on the basis of magazine marks alone. See *Sexton v. Texas*, 93 S.W. 3d 96, 101, 2002 Tex.Crim. App. Lexis 194, (2002), a copy of which is attached hereto. Given that a Boston Police Department ballisticsian, who will offer testimony in this case, has affirmatively indicated that he would use insufficient markings to declare a "match," and that the government refused to identify, prior to trial and prior to any *Daubert* hearing, the basis – that is, the types, locations and number of markings – upon which the expert bases his opinion of a positive "match," renders the testimony inadmissible even under traditional standards.

Moreover, it appears from Sergeant Weddleton's reports and from prior experience dealing with the Boston Massachusetts State Police forensic labs, that Sergeant Weddleton performed only one test firing to compare to the evidence. It is standard practice among respected firearms examiners to conduct at least three or more test firings in order to observe the variation in striations left on ammunition even by the same gun before attempting to declare a match. Sergeant Weddleton's failure to do is substandard.

Similarly, the failure of Sergeant Weddleton to take and produce photomicrographs of the alleged match does not meet the standard for firearms examination prevailing for more than seventy-five years. The government's expert in *Prochilo*, ATF special agent Timothy Curtis, acknowledged that he takes photomicrographs of all positive identifications and that was standard practice in his laboratory. Thatcher and other respected firearms examiners note that taking photomicrographs is standard practice. Comparison photographs were available to the jury in the Saco and Van Zetti case. Sergeant Weddleton's refusal to provide photomicrographs is clearly substandard and is clearly an effort to prevent the defendant from questioning the basis of his testimony of a "match".

3. The Extent of Replacement Parts Used To Test Fire The High-Power Clone Prohibits a Declaration Of A "Match" With Evidence From The Fernandez Shooting.

The extent of replacement parts used to perform the test firing of the high-power clone allegedly used in the Fernandez shooting prohibits any conclusion of a "match" to evidence generated prior to replacement of the parts. Specifically, replacement of the firing pin, firing pin spring retainer plate, barrel, recoil spring, spring retainer, ball spring and ball, ball spring guide and trigger lever all create variation in the marks to be imparted to the breach face and primer, in the case of the firing pin, and in the forces that will bear on the ammunition as it is fired through

the firearm, in the case of the firing pin spring and barrel, such as to prohibit any reliable conclusion of a match. Given that the firing pin has been changed, and that the firing pin is typically the source of striations used even more so than breach face markings to declare a match when examining cartridge caseheads, any declaration of a match, particularly as it is unsupported by any photomicrographs showing the number and quality of striations, is per se unreliable. See LaMagna Affidavit, Paragraph 61.

Moreover, design issues concerning the contours and dimensions of firearm parts, such as the barrel, and their effect on the forces brought to bear when the firearm is fired are well known and established in the field of firearms manufacturer and engineering. Because it is known that the change in pressure drastically effects the breachface or firing pin marks which will be imparted to a cartridge casehead, any attempt to offer an opinion of a “match” after replacement of key parts such as the barrel and firing pin spring without analysis of the mathematical forces is per se unreliable. See LaMagna Affidavit, Paragraph 62.

Mr. LaMagna is currently involved in a case in California where the defense attorney believes that the government will object to his test firing a gun sometime after the commission of the crime on the ground that the parts of the gun which are original may have become rusty and, therefore, any comparison would be unreliable. Here, where the parts are not only rusty but replaced, the government’s testimony of a match is completely unreliable. See LaMagna Affidavit, Paragraph 63.

To illustrate both the effect of substantial replacement parts on the supposed identification of the Hi-Power clone, as well as more sophisticated instruments that could be used to conduct the firearms comparison, Mr. LaMagna used an optical CCD camera, scanning electron microscope, and laser-scanning microscope at Worcester Polytechnic Institute and a

white light interferometer at Zygo Corporation in Connecticut to compare test firings from a Hi-Power style pistol, both in its original condition and using replacement parts similar to those used to reconstruct the Hi-Power clone in this case. He did several test firings with different brands of ammunition and compared the results. His experiments show that there is substantial variation in the transference of breach face markings from the firearm to the various projectiles, both when the same gun is used with different brands of ammunition and even more so when replacement parts are added to the firearm. See LaMagna Affidavit, Paragraph 64 and LaMagna Report.

4. The Proffered "Expert" Testimony Is Not Reliable Because It Is Based Upon Faulty Assumptions That Tool Marks Are Unique And Permanent.

Even if the expert's testimony did comport with traditional principles of toolmark analysis, which it does not, the general theory and techniques do not meet Rule 702's standard of reliability, beginning with the underlying assumptions of uniqueness and permanence. In *Plaza and Mitchell*, the district courts took judicial notice of the uniqueness and permanence of fingerprints. In *Hines*, on the other hand, Judge Gertner noted that, unlike DNA or fingerprints, handwriting is not necessarily unique or permanent. Even under traditional principles of firearms identification, certain markings such as ejector/extractor marks or magazine lip marks were considered merely "class characteristics." They were used to identify the make or the model of the firearm used or, more likely, to exclude makes of firearms which could not have been used. These marks were not typically considered "unique" to a particular firearm. *Id.* at 27-28. Similarly, traditional firearms examiners acknowledge that firearms are subject to wear, which causes the marks they may imprint on a bullet or cartridge casing to change over time. As a practical matter, however, examiners presume that toolmarks are "permanent" for the purposes of the identification.

More importantly, particularly given modern manufacturing methods, there is simply no basis for the assumption, fundamental to classic toolmark identification theory and technique, that those markings previously classed as individual characteristics, specifically barrel rifling and breach face marks, are in all cases "unique" to a particular gun. There have been no independent studies conducted to determine whether in fact each gun creates a unique "fingerprint" on any bullet fired. On the contrary, with modern manufacturing methods, there are minimal, if any, toolmarks to be imparted by the finished firearm on the bullet or cartridge casing that are unique to the particular gun.

Moreover, in the case of toolmark analysis, the defendant can provide specific examples of failure of the technique, the kinds of examples that the courts in *Plaza and Mitchell* noted, at that time, were lacking with respect to fingerprint analysis. In the *Prochilo* case, the defendant was able to provide the Court with an example in which government forensic scientists admitted being unable to identify the particular gun which had discharged a bullet using the traditional individual characteristic of barrel rifling. In that case, the firearm section manager of the Georgia Bureau of Investigation Crime Laboratory posted a request on the internet seeking the assistance of other firearms examiners after he encountered a problem in attempting to identify a particular Glock firearm from which a bullet had been shot. The problem had arisen in an incident in which an innocent bystander had been shot by an officer. Officers from two agencies were involved. All of the officers were using Glock service firearms, and the lab could not determine from which service firearm the bullet had been fired.

At the *Daubert* hearing in *Prochilo*, the government's expert acknowledged the difficulty of identifying bullets shot through Glock firearms. See Testimony of ATF Special Agent Timothy Curtis, *Daubert* hearing in *Prochilo*. In fact, the Glock barrel is manufactured using a

method that leaves a particularly smooth interior surface which in turn leaves minimal markings on bullets fired through them. Indeed, as early as 1957, in that year's edition of his text, Hatcher was pointing out that modern methods of manufacturing, such as double button rifling, resulted in highly polished barrels and rifling that provided "the toughest identification job we have ever tackled." Major General Julian S. Hatcher et. Al., *Firearms Investigation, Identification and Evidence* 382 (Thomas G. Samworth ed., 1957). In fact Hatcher noted that, "[t]he breach faces that give the most trouble are those of cheap shotguns which are manufactured in enormous quantities from soft steel by standard cutters without any hand finishing at all." *Id.* at 118-119.

David LaMagna has cited to numerous studies in his affidavit where firearms examiners were unable to distinguish bullets and cartridge cases recovered from the firing of different guns of the same make and model. *See* LaMagna Affidavit at ¶16. LaMagna notes that studies indicate that breach face markings imparted on cartridge caseheads fired from different guns of the same make and model may show agreement of striated markings left on cartridge caseheads.

Mr. LaMagna has also been informed by an engineer from Kahr Arms in Worcester, Massachusetts that, when the State of Maryland began requiring all new guns that were to be sold in Maryland to be subject to ballistics imaging (i.e., IBIS), they found that several Kahr pistols were leaving the same firing pin impressions on cartridge cases fired through them. When the engineering staff investigated this, they believed that the machine that was manufacturing the firing pins was leaving the same burr on all the firing pins being produced. Consequently, the same firing pin impression image was being picked up by the IBIS system at the Maryland State Police headquarters even when shots were fired through different guns. *See* LaMagna Affidavit ¶15.

Thus, a court faced with a *Daubert* motion concerning toolmark identification evidence cannot, as courts have done with respect to fingerprints, simply take judicial notice of the uniqueness and permanence of toolmarks on firearms which might be used to identify a cartridge or casing cycled through them.

5. Testimony Of A “Match” Is Not Reliable.

The evidence is inadmissible under Rule 702 because the officer’s conclusions were not in fact the product of reliable principles and methodology. Like field sobriety tests or handwriting analysis, the proffered toolmark analysis meets none of the *Daubert* standards of reliability. There are no meaningfully accepted validity studies in the field. The “field” has little efficacy outside of the courtroom. There are no peer reviews of it. There has been no showing of the officer’s error rate. No one can compare the opinion reached by an examiner with a standard protocol subject to validity testing since there are no recognized standards. There is no agreement as to how many similarities it takes to declare a “match” or how many differences it takes to rule it out. *Cf. United States v. Hines*, 55 F. Supp.2d at 69. In all of these cases, the experts make their identification based solely on a “one on one show-up.” There is absolutely no evidence that any of these experts could pick a “match” if they were given a line-up of similar exemplars and asked to determine which matched the item sought to be identified. In fact, in the case of the officer involved shooting in Georgia, they could not.

In his classic textbook on firearms investigation, Hatcher recognizes that one must use statistical analysis and theory of probability to support a conclusion that a particular cartridge was fired through a particular firearm. After going through the probability analysis, however, Hatcher admits, “Of course, the details given in this discussion are all purely speculative for no data are available as to the exact probability of the existence of any particular mark at any

definite location on a bullet.” Hatcher, *supra* note 40, at 287. Since the publication of Hatcher’s definitive text in 1935, there have been no scientifically-conducted studies which to a statistically significant probability quantify the likelihood that particular marks will identify a particular make of firearm, much less an individual firearm from a particular make. By way of comparison, DNA evidence of a “match” is only admitted along with statistical evidence of the likelihood of a DNA profile matching by coincidence. Without such statistical evidence of the probability of a coincidental match, the testimony is considered meaningless.

As the District of Maryland found in the case of field sobriety tests, toolmark identification has achieved general acceptance without there ever having been a contested, detailed examination of the underpinnings of the methodology. General acceptance of the methodology among toolmark examiners fails to satisfy the *Daubert/Kumho Tire* tests where there is no evidence that these professionals have the expertise needed to evaluate the methods and procedures underlying the techniques. Moreover, in contrast to other forensic sciences, there is good reason why general acceptance of toolmark identification methodology in the past does not necessarily support general acceptance of that methodology now. Modern manufacturing methods have in fact minimized the toolmarks upon which toolmark analysis is based, and logic dictates that whatever efficacy these methods had in the past has been eliminated by these modern manufacturing methods.

Moreover, the actual method used by examiners to declare a “match” is so lacking in scientific method that even a layperson can see its flaws. Firearms examiners are typically law enforcement officers who have learned identification “techniques” from observing other officers. They generally are not required to have any formal scientific or technical education that would enable them to conduct an experiment using scientific method or to state a conclusion to any

mathematical probability. Most examiners, many of whom are state and local law enforcement agents, go through no formal training program, certification or annual testing, as do FBI certified fingerprint examiners. The firearms examiner typically, as in the *Prochilo* case, test fires the weapon and compares the test cartridge or casing to that discovered in the course of investigation. The examiner does not fire even one other gun of the same make and model to see if the marks observed might be characteristic of the class or type of gun but not necessarily the individual gun. Nor have any systematic studies been carried out in which repeated firings are analyzed to determine what, if any, marks observed are unique to the particular gun. Where there can be no presumption of the uniqueness and there are uncontroverted examples of failure of the technique, excluding this evidence pending such studies does not, as Judge Pollak found in the case of fingerprint analysis, make “the best the enemy of the good.” On the contrary, the method of comparison and of declaring a “match” in the case of toolmarks is both devoid of scientific method and as a factual matter wholly unreliable.

Nor can this testimony be admitted as resting upon "good grounds, based on what is known." See *Mitchell*, 365 F.3d at 244 (quoting *Ruiz-troche v. Pepsi-Cola Bottling Company*, 161 F.3d 77, 85 (1st Circuit, 1988)(quoting *Daubert*, 509 U.S. at 590). The government’s experts have made no attempt to utilize modern measurement technique, such as a scanning electron microscope, a laser microscope or a white light microscope, to more accurately measure the alleged toolmarks to obtain a more accurate and quantifiable comparison. The Boston Police Department does not even produce photomicrographs, which were state of the art when Hatcher wrote his treatise in 1935 and 1957. Scanning electron microscopes are and have been for many years, readily available and, in fact, have been used by other forensic examiners such as the U.S. Fish and Wildlife Service and the forensic laboratories of West Virginia, when they have

appropriately trained personnel. The Massachusetts State and Boston Police Department ballistic units, however, rather than attempting to obtain the proper equipment and hiring trained personnel with both the scientific training and education to operate that equipment and analyze the resulting data, have buried their heads in the sand to keep forensics ballistics identification at a level that police officers with no scientific education or training can perform. These officers simply cannot provide testimony that rests upon "good grounds, based on what is known."

6. All Expert Testimony Should Be Excluded, Not Just Testimony Of A "Match."

Even where it has been determined that a forensic science lacks sufficient reliability to permit expert testimony of a positive "match," courts have next considered whether to permit experts to testify to the underlying facts of comparison from which jurors could then draw their own conclusions. As the court reasoned in *Horn*, the answer is provided by Rules 701 and 702 of the Federal Rules of Evidence. *Id.* Where such testimony concerns matters, such as handwriting or signs of intoxication, that are within the common experience of jurors and as to which lay witnesses would be permitted to give an opinion under Rule 701, comparison testimony may be appropriate. In areas outside of the common experience of laypersons, however, such as DNA comparison, enlarged fingerprints or toolmarks, any testimony whatsoever is by definition based on scientific, technical or other specialized knowledge and, if it does not meet the requirements of Rule 702/*Daubert*, must be excluded.

In *Horn*, Judge Grimm allowed the police officer to testify to his observations of the suspect's performance of the field sobriety tests and to give an opinion based on those observations as to the sobriety of the suspect. The court allowed this testimony under Rule 701 as lay opinion testimony based on the perception of the witness, not based on scientific, technical or other specialized knowledge. *Id.* at 559-560. The court ruled, however, that the officer would

not be allowed to interject technical or specialized comments based on his technical training or experience, where the proffered expert testimony was inadmissible under Rule 702. *Id.*

Similarly, several courts, while excluding from evidence the expert's ultimate conclusion that the handwriting was a "match," have admitted the expert's testimony as to similarities between the handwriting samples. *United States v. Hines*, 55 F. Supp. at 70. *See also United States v. Van Wyk*, 83 F. Supp. 2d at 522-523; *United States v. Santillan*, 1999 WL 1201765 at *5 (allowing comparison testimony of handwriting samples but no opinion of authorship noting that both lay witnesses pursuant to Fed. R. Evid. 701 and jurors are permitted to determine authorship of handwriting based on their own comparisons). Noting that both lay witnesses under Rule 701 and jurors are permitted to determine authorship of handwriting based on their own comparisons, these courts were satisfied that expert testimony as to the mechanics and characteristics of handwriting would add to the general knowledge of lay persons and assist them to make comparisons of different examples of handwriting. *United States v. Hines*, 55 F. Supp.2d at 70 (quoting *United States v. Buck* 1987 WL 19300 (SDNY 1987)). *See also Id.*

Where observations are not within the experience of the ordinary juror, however, any comparison testimony is necessarily based on scientific, technical or other specialized knowledge and is therefore inadmissible if it fails to meet the requirements of *Daubert*/Rule 702. In the first *Plaza*⁴ decision, while excluding the examiner's ultimate opinion, the court would have permitted the experts to describe how the rolled and latent fingerprints at issue were obtained and similarities of and differences between the magnified images of the prints. The court reasoned that, unlike evaluation testimony which constituted an opinion subject to Rule 702, comparison testimony was purely descriptive and, therefore, not subject to *Daubert* standards. *Id.* at 516.

⁴ 179 F. Supp. 2d 494 (E.D. Pa. 2002)

Rule 702 applies to all expert testimony, however, not just an ultimate opinion or conclusion. Moreover, the court's own summary of this "purely descriptive" testimony belies its conclusion. Since magnified fingerprints are outside the common experience of laypersons, any descriptions of them must necessarily be based on scientific, technical or other specialized knowledge. Such descriptions do not merely add to the juror's general knowledge about a matter as to which they would otherwise be permitted to reach their own conclusions based on their own observations. That testimony, like the ultimate opinion, is subject to the provisions of Rule 702/*Daubert* and if those standards are not met, is inadmissible.

Moreover, the testimony is unduly prejudicial. Because lay jurors have no experience in their daily lives in comparing fingerprint impressions, they have no context within which to place the expert's testimony pointing out particular degrees of similarity. This is also true for comparison testimony regarding DNA strands or toolmark impressions. With no basis, either from their own experience in daily life or from admissible expert testimony, for determining how many points of comparison might justify the conclusion of a "match," the expert's testimony as to points of comparison is not only meaningless, but unduly prejudicial. The jury will simply assume that, if the court is taking up its valuable time to allow an "expert" to point out matching marks, they must be significant and, conversely, that a coincidental match is unlikely.

In rejecting any attempt to distinguish between scientific and technical evidence and its effect on the jury, the court in *Kuhmo* recognized that, whether the testimony to be offered was "scientific" or "technical," the expert's testimony would rest upon an experience confessedly foreign in kind to the jury's own. Under those circumstances, the trial judge is required to assure that the specialized testimony is reliable and relevant and can help the jury evaluate that foreign experience. *Kuhmo*, 526 U.S. at 149. A fact witness may testify that the suspect was blond

because the jury knows from its own experience that the defendant is not the only blond in the population and, therefore, cannot be identified on the basis of that characteristic alone. Jurors have at least seen a wide variety of handwriting and can, without expert testimony, compare handwriting samples in the context of the varieties of handwriting they come across in daily life. Jurors have no experience, however, with microscopic toolmarks on bullets, enlarged fingerprint impressions, microscopic hair comparisons or DNA strands. Without scientifically conducted tests to inform a jury of the likelihood that any particular mark or any set of marks can uniquely identify a bullet shot from a particular gun (or a fingerprint, a sample of hair or DNA), the testimony is both meaningless and misleading and would be unduly prejudicial were it admitted. This is not a case where the ability of jurors to perform the crucial visual comparisons on their own, as in the case of handwriting, cuts against the danger of undue prejudice from the mystique attached to an expert. *Cf. United States v. Hines*, 55 F. Supp.2d at 70 n.21. On the contrary, where testimony wholly outside the experience of the ordinary juror fails to meet *Daubert's* standards of reliability, it must be excluded in its entirety.

III. CONCLUSION

For the foregoing reasons, the defendant requests that the Court issue an order *in limine* prohibiting evidence of, or reference in the arguments of counsel to, the proffered ballistics evidence.

Respectfully submitted,

ANGELO BRANDAO

By his attorneys,

Joan M. Griffin (BBO# 549522)
PERKINS, SMITH & COHEN, LLP
One Beacon Street

Boston, MA 02108
617-854-4000

Michael O. Sheehan, Esq.
SHEEHAN & REEVE
139 Orange Street, Suite 301
New Haven, CT 06510
203-787-9026

Dated: July ___, 2005

31485-2-MemoExclBaldft3.doc