



IN THE CIRCUIT COURT OF THE STATE OF OREGON FOR MARION COUNTY

STATE OF OREGON, )  
 )  
 Plaintiff, ) Case No. 09C49224  
 )  
 vs. ) AFFIDAVIT IN SUPPORT OF  
 ) MOTION IN LIMINE  
 JOSE ALONZO QUEZADA, )  
 )  
 Defendant. )

STATE OF OREGON )  
 ) ss.  
 COUNTY OF MARION )

I, Erik E. Eklund, being first duly sworn on oath, depose and say that:

1. I am the attorney of record for the defendant in the above-captioned proceeding;
2. The defendant is charged by secret indictment with one count of Unlawful Use of a Motor Vehicle under ORS 164.135 and one count of Unlawful Entry Into A Motor Vehicle under ORS 164.272;
3. On April 11, 2009, Woodburn Police responded to a reported stolen vehicle (1995 black Honda Civic, registered to Dulce Bazan Garcia) at 1200 Country Club Road in Woodburn;
4. On April 18, 2009, the vehicle was discovered unoccupied at 2245 Country Club Terrace, and reported to Woodburn Police;
5. Woodburn Police Officer Joshua Rains responded, and dusted the interior and exterior of the vehicle for fingerprints;
6. On May 6, 2009, Oregon State Police Forensic Laboratory Latent Print Examiner Bonnie L. Marchant examined latent print cards recovered from the vehicle, and ran one of them through the Western Identification Network Automated Fingerprint Identification System (AFIS), with a 'hit' returned individualizing the card to the defendant;

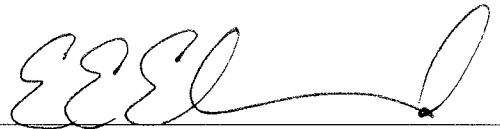
7. On November 24, 2009, the AFIS returned a 'hit' for one of the prints, purporting to match it to a print taken from the defendant on April 28, 2009;

8. Two other prints taken from the vehicle were deemed insufficient for analysis, and nine others were not analyzed per investigative necessity;

9. To my knowledge, other than the fingerprint analysis mentioned above, no evidence connecting the defendant to this vehicle has been discovered.

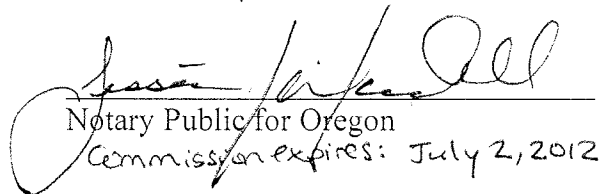
10. I make this affidavit in good faith in support of the attached motion. All of the statements herein are true to the best of my knowledge and belief.

DATED: January 22, 2010.



Erik E. Eklund  
Attorney for Defendant

SUBSCRIBED AND SWORN TO before me This 22nd day of January 2010  
(NOTARY SEAL)



Notary Public for Oregon  
Commission expires: July 2, 2012

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6 STATE OF OREGON, )

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8 vs. )

9 JOSE ALONZO QUEZADA, )

10 Defendant. )

Case No.: 09C49224

MEMORANDUM IN SUPPORT OF  
MOTION IN LIMINE

11  
12 DEFENDANT, by and through counsel, respectfully submits the following Memorandum  
13 of Law in support of the Motion In Limine filed herewith.  
14

15 **I. Testimony regarding fingerprint evidence is “scientific evidence,” as such, it**  
16 **requires a scientifically valid foundation.**

17 "The term 'scientific' . . . refers to evidence that draws its convincing force from some  
18 principle of science, mathematics and the like." *State v. Marrington*, 335 Or 555, 561 (2003)  
19 (quoting *State v. Brown*, 297 Or 404, 407 (1984)). “[W]hether proffered expert testimony is  
20 scientific evidence, requiring an appropriate foundation, depends primarily on whether the trier  
21 of fact will perceive the evidence as such.” *Marrington*, 335 Or at 561 (citing to *State v. O'Key*,  
22 321 Or 285 (1995)). In this case, there can be no question that any evidence regarding  
23 fingerprint analysis will be presented as scientific by the proponent and will be perceived by the  
24 trier of fact as scientific. Because of this, evidence of fingerprint analysis must be scientifically  
25 valid in order to be admitted.

26 Evidence perceived by lay jurors to be scientific in nature possesses  
27 an unusually high degree of persuasive power. The function of the  
28 court is to ensure that the persuasive appeal is legitimate. The value  
of proffered expert scientific testimony critically depends on the  
scientific validity of the general propositions utilized by the expert.

1 Propositions that a court finds possess significantly increased  
2 potential to influence the trier of fact as scientific assertions,  
3 therefore, should be supported by the appropriate scientific  
4 validation. This approach 'ensure[s] that expert testimony does not  
5 enjoy the persuasive appeal of science without subjecting its  
6 propositions to the verification processes of science.'

7 *O'Key*, 321 Or at 291-92 (footnote and citations omitted).

8 **II. Evidence regarding fingerprint analysis is not scientifically valid and should be**  
9 **excluded.**

10 Fingerprint analysis has been unchallenged in Oregon. Presumably, this fact will  
11 be relied upon by the state as proof of its validity. However, a number of jurisdictions  
12 have recently questioned previously held assumptions about the validity of scientific  
13 evidence in other fields. See e.g. *US v. Hines*, 55 F.Supp.2d 62, 68-71 (D Mass 1999)  
14 (limiting handwriting comparison evidence); *Ramirez v. State*, 801 So.2d 836 (Fla 2001)  
15 (excluding forensic knife mark evidence); *State v. Behn*, 868 A.2d 319 (NJ 2005)  
16 (remanded for a new trial because of dubious bullet forensic evidence); *US v. Glynn*, 578  
17 F.Supp.2d 567 (S.D.N.Y. 2008) (requiring firearms examiner to express his opinion of a  
18 match as only "more likely than not," and recognizing that "because the burden of proof  
19 in a criminal case is 'beyond a reasonable doubt,' it follows that a conviction in a  
20 criminal case may not rest exclusively on ballistics testimony.").

21 In order to be admissible, scientific evidence must meet three criteria: it must be  
22 relevant under OEC 401, it must possess sufficient indicia of scientific validity and be  
23 helpful to the trier of fact under OEC 702, and its prejudicial effect must not outweigh its  
24 probative value under OEC 403. See *State v. Southard*, 347 Or. 127, 132 (October 1,  
25 2009).

26 **A. Evidence of fingerprint analysis is not scientifically valid.**

27 The Oregon Supreme Court, in *Brown*, set forth a variety of factors for a court to consider  
28 when determining relevance or probative value of particular evidence:

- (1) The technique's general acceptance in the field;
- (2) The expert's qualifications and stature;
- (3) The use which has been made of the technique;
- (4) The potential rate of error;

- (5) The existence of specialized literature;
- (6) The novelty of the invention;
- (7) The extent to which the technique relies on the subjective interpretation of the expert;
- (8) The potential error rate in using the technique;
- (9) The existence and maintenance of standards governing its use;
- (10) Presence of safeguards in the characteristics of the technique;
- (11) Analogy to other scientific techniques whose results are admissible;
- (12) The extent to which the technique has been accepted by scientists in the field involved;
- (13) The nature and breadth of the inference adduced;
- (14) The clarity and simplicity with which the technique can be described and its results explained;
- (15) The extent to which the basic data are verifiable by the court and jury;
- (16) The availability of other experts to test and evaluate the technique;
- (17) The probative significance of the evidence in the circumstances of the case; and
- (18) The care with which the technique was employed in the case.

*Brown*, 297 Or at 417 & n 5.

Many of these factors warrant attention when addressing the admissibility of fingerprint analysis. At particular issue is fingerprint analysis' increasing lack of acceptance in the scientific and legal communities (number 1 above), the lack of studies analyzing the potential rate of error in fingerprint analysis (numbers 4 and 8 above), the degree of subjective interpretation required in fingerprint analysis (number 7 above), the lack of verification that can be done by the trier of fact (number 15 above), the lack of the existence and maintenance of standards governing the use of this technique (number 9 above) and, potentially, the care with which the technique was employed in the present case (number 18 above).

**1. There is increasing doubt in the scientific and legal communities as to the veracity of fingerprint evidence.**

Recent cases where fingerprint matches have been shown to be in error have brought it under increasing scrutiny. The case of Brandon Mayfield is the most high-profile case to date. Mr. Mayfield is a Portland lawyer who was incorrectly detained after fingerprint analysis erroneously connected him to a latent fingerprint found on a bag

1 of detonators in Madrid after several bombs were detonated on commuter trains in Spain.  
2 FBI latent print examiner Terry Green identified Mayfield as being a match with the  
3 Madrid print. John Massey, a retired FBI examiner of 35 years who contracted with the  
4 FBI, confirmed this match. FBI Latent Print Unit Chief Michael Weiners further  
5 confirmed the match. Kenneth Moses, an independent fingerprint examiner appointed by  
6 the court, also confirmed the match. The FBI admitted later that this match was  
7 erroneous after Spanish authorities insisted that the FBI had made an error. See *A Review*  
8 *of the FBI's Handling of the Brandon Mayfield Case*, a report from the Oversight and  
9 Review Division of the US Dept. of Justice's Office of the Inspector General (March  
10 2006) [hereinafter, OIG Report], a copy of which can be found at:  
11 [http://www.justice.gov/oig/special/s0601/PDF\\_list.htm](http://www.justice.gov/oig/special/s0601/PDF_list.htm).

12 Another example is the court in *Maryland v. Bryan Rose*, K06 0545 (Cir. Ct. Balt.  
13 Co. 2008), which found the state had not shown that latent print identification rested on a  
14 reliable factual foundation as required by Maryland rules.

15 Furthermore, a 2009 study published by the National Research Council under the  
16 auspices of the National Academy of Science, titled *Strengthening Forensic Science in*  
17 *the United States: A Path Forward*, (The National Academies Press, 2009), [hereinafter  
18 2009 NRC Report], raises a number of concerns regarding fingerprint analysis and the  
19 lack of scientific validity. The National Research Council Committee, formed at the  
20 request of Congress, included members of the scientific community, forensic  
21 practitioners, and legal experts. *Plough Inc. v. Nat'l Acad. of Sciences*, 530 A.2d 1152,  
22 1156 (D.C. 1987). In order to reach the findings printed in its 2009 report, the  
23 Committee reviewed studies related to forensic disciplines, conducted independent  
24 research, and heard testimony from experts in the field. 2009 NRC Report at 2. The  
25 preliminary reports were then submitted to a review panel composed of members other  
26 than those on the authoring Committee before the entire report could be finalized.  
27 *Plough Inc.*, 530 A.2d at 1156.

28 For these reasons, courts have routinely recognized that National Research  
Council committees represent "a distinguished cross section of the scientific

1 community,” *United States v. Porter*, 618 A.2d 629, 643 n.26 (D.C. 1992), and have  
2 consistently “treated the reports of the NRC as authoritative works for purposes of  
3 determining generally accepted standards within the scientific community...” *Com v.*  
4 *Gaynor*, 820 N.E.2d 233, 250 (Mass. 2005). Even the United States Supreme Court has  
5 relied on the 2009 NRC Report as an authority on the fact that “[s]erious deficiencies  
6 have been found in the forensic evidence used in criminal trials” and “to refute the  
7 suggestion that this category of evidence is uniquely reliable.” *Melendez-Diaz v. Mass.*,  
8 129 S. Ct. 2527, 2537 n.6 (2009).

9 Therefore, when the NRC Committee concludes in its final report that there is no  
10 scientific evidence that latent fingerprint analysis can consistently and accurately  
11 demonstrate a connection between evidence and a specific individual or source, see 2009  
12 NRC Report at 7, such a conclusion can properly be viewed as the opinion of the relevant  
13 scientific community for latent fingerprint identification.

## 14 **2. There is no evidence regarding rate of error in fingerprint analysis.**

15 At present, there are no scientific validation studies regarding fingerprint analysis.  
16 Although fingerprint examiners have consistently claimed that latent fingerprint  
17 comparisons have an error rate of zero, see OIG Report at 124, the 2009 NRC Report  
18 makes clear that: “although there is limited information about the accuracy and reliability  
19 of friction ridge analysis, claims that these analyses have zero error rates are not  
20 scientifically plausible.” 2009 NRC Report at 142. The report goes on to explain that  
21 well documented erroneous fingerprint identifications have blown away “the  
22 misconception that the forensic discipline of fingerprinting is infallible.” *Id.* at 103-104.

23 Therefore, the proponent of fingerprint evidence should be called upon to present  
24 evidence regarding the potential rate of error so that the court can determine the probative  
25 value of such evidence. Otherwise, as stated in *United States v. Green*, “without any  
26 information about error rates, the initial factfinder, this Court, and the ultimate one, the  
27 jury, have no accurate way of evaluating [fingerprint match] testimony.” 405 F. Supp. 2d  
28 104, 121 (D. Mass. 2005). The opinion in *Green* further explains the hazards of  
presenting scientific evidence without a known rate of error: “In effect, the jury would

1 have to trust in [the fingerprint examiner's] observational capacities, without knowing  
2 how often he was actually correct. 405 F. Supp. 2d at 122.

3 Blindly trusting fingerprint match testimony without proof of its rate of  
4 correctness simply does not qualify as valid scientific evidence. This is especially true  
5 due to the fact that fingerprints from different people can be very similar to one another.  
6 See OIG Report at 6. Even if full fingerprints are unique, partial latent prints from two  
7 different people might have patterns similar enough that an impression from one could be  
8 mistakenly attributed to the other. See Jessica D. Gabel & Margaret D. Wilkinson,  
9 "*Good*" Science Gone Bad: How the Criminal Justice System Can Redress the Impact of  
10 Flawed Forensics, 59 Hastings L.J. 1001, 1012 (May 2008). Therefore, because  
11 "multiple people may have a certain number of ridge characteristics in common, ...the  
12 axiom that 'no two fingerprints are alike' is defied in practice." *Id.*

13 There is no available data on how many people share five, or eight, or 15 of the  
14 "points" that fingerprint examiners base a match on. There is also no empirical  
15 foundation for calculating how frequently fingerprint examiners err. And there is no  
16 objective research on how often smeared or partial prints lead to a false match. In this  
17 regard, fingerprint analysis stands in stark contrast to DNA evidence, whose novelty  
18 forced molecular biologists and forensic scientists to undertake rigorous research to  
19 establish the odds that two people share some number of DNA similarities, and to  
20 standardize lab procedures. See *State v. Lyons*, 324 Or 256, 276 (1996) (noting that over  
21 4,000 published scientific articles across a broad scientific spectrum existed examining  
22 DNA technology and methodology, describing its use in medical, animal, and plant  
23 research, as well as by the FBI and the military services.)

24 One of the great strengths of DNA typing, as a counterpoint to fingerprint  
25 analysis, is that it uses a statistical approach based on population genetics theory and  
26 empirical testing. See *Lyons*, 324 Or at 266. Experts evaluate matches between suspects  
27 and crime scene DNA evidence in terms of the probability of random matches across  
28 different reference populations (e.g., different ethnicities). These probabilities are  
derived from databases that identify the frequency with which various alleles occur at

1 different locations on the DNA strand. Saks, Michael J. and Koehler, Jonathan J., *The*  
2 *Coming Paradigm Shift in Forensic Identification Science*. Science, Vol. 309, p. 892,  
3 August 2005. The practice of matching fingerprints stands in stark contrast to the  
4 practice of DNA matching on this point. There is no database to which fingerprint  
5 examiners can turn to tell them how frequently two people might have, for example, 10  
6 fingerprint characteristics in common, seeing as population statistics have not been  
7 developed for shared fingerprint characteristics like they have been for shared DNA  
8 characteristics. See 2009 NRC Report at 139. Therefore, fingerprint examiners really do  
9 not have any statistical basis for determining the probability that a match indicates that  
10 both the defendant's prints and the prints found at the crime scene come from the same  
11 person. See OIG Report at 117-118.

12 Without such basic foundational information as the actual significance of a  
13 fingerprint match, there is no basis for the court to find that the fingerprint analysis  
14 evidence is valid. Other courts, recognizing this point, have held that forensic evidence  
15 matching a suspect to a crime may only be offered into evidence if the significance of  
16 that match or determination can be ascertained and expressed to the jury. See *United*  
17 *States v. Yee*, 134 F.R.D. 161, 180 (N.D. 1991); see also *Porter*, 618 A.2d at 640 (“We  
18 would not permit the admission of test results showing a DNA match [a positive result]  
19 without telling the jury anything about the likelihood of that match occurring.”) These  
20 concerns about the scientific validity of fingerprint matching are well summarized in a  
21 previous National Research Council report: “to say that two patterns match, without  
22 providing any scientifically valid estimate (or, at least, an upper bound) of the frequency  
23 with which such matches might occur by chance, is meaningless.” Nat’l Research  
24 Council, Nat’l Acad. of Science, *DNA Technology in Forensic Science*, 74 (1992).

25 **3. There is a high degree of subjective interpretation in fingerprint**  
26 **analysis.**

27 It is believed that the forensic examiners in this case employed the “ACE-V”  
28 method. The ACE-V identification process is essentially a visual comparison of the  
known print (a fingerprint taken from a known suspect or defendant) and latent print (a

1 fingerprint from an unknown source left at a crime scene) to see whether, in the  
2 subjective opinion of the examiner, the prints are sufficiently similar to declare a match.  
3 See David R. Ashbaugh, *Quantitative-Qualitative Friction Ridge Analysis: An*  
4 *Introduction to Basic and Advanced Ridgeology*, p.103 (CRC Press, 1999). ACE-V  
5 stands for “Analysis, Comparison, Evaluation, Verification.” *Id.* at 108. This  
6 methodology consists of the following basic steps: “analysis” by an initial fingerprint  
7 examiner of the observably distinctive patterns of a latent print, such as ridge endings or  
8 whorls (referred to as “Galton Points”); “comparison” by the examiner of the latent print  
9 patterns with those of a rolled print; “evaluation” by the examiner of these compared  
10 patterns with a view to determining whether the prints are, or are not, impressions made  
11 by the same finger or palm; and “verification” by a second examiner who repeats the  
12 analysis, comparison and evaluation steps in order to verify, or not, the initial examiner's  
13 finding.

14 Further complications arise if, as is the case here, there is no known print to  
15 compare with the latent print. In this situation, the examiner may run a computer “AFIS”  
16 (Automated Fingerprint Identification System) search. The AFIS search will generate a  
17 list of candidates from a database of known prints. The examiner will then compare these  
18 prints with the latent print.

19 A fundamental flaw in the ACE-V methodology is the psychological phenomenon  
20 known as “confirmation bias.” This was found by the FBI report to be a factor in the  
21 misidentification in the Brandon Mayfield case, discussed above. In brief, if the  
22 examiner has a prior belief or expectation that two fingerprints will or will not match,  
23 then two potential psychological biases arise. “Cognitive confirmation bias” is a  
24 tendency to seek out and interpret evidence in ways that fit existing beliefs. “Behavioral  
25 confirmation bias,” commonly referred to as the self-fulfilling prophecy, is a tendency for  
26 people to unwittingly procure support for their beliefs through their own behavior. The  
27 danger of confirmation bias affecting an examiner's subjective opinion was rarely  
28 discussed in the fingerprint examination literature prior to the FBI's report on the  
Mayfield error. This confirmation bias may cause examiners to overestimate the quality

1 of a latent print and minimize any discrepancies between the latent print and the  
2 comparator. Confirmation bias also plays a role in the verification step, wherein a  
3 separate person is called in to agree or disagree with the match. As in the Mayfield case,  
4 the verification step often does not provide an adequate safeguard.

5 The very technique employed in the ACE-V fingerprinting method was  
6 denounced in the 2009 NRC Report for producing utterly invalid scientific evidence. See  
7 2009 NRC Report at 143. The report states specifically that the ACE-V method:

8 ...is not specific enough to qualify as a validated method for this type of  
9 analysis. [The method] does not guard against bias; is too broad to ensure  
10 repeatability and transparency; and does not guarantee that two analysts following  
it will obtain the same results.

11 *Id.* at 142. After thoroughly analyzing the ACE-V method, the report emphatically  
12 concludes that: "we have reviewed available scientific evidence of the validity of the  
13 ACE-V method and found none." *Id.* at 143.

14  
15 **4. The trier of fact cannot adequately verify the results of fingerprint**  
16 **analysis.**

17 As it is typically presented, the examiner merely tells the trier of fact of the match and  
18 perhaps the methodology used in deciding that match. It is doubtful that the trier of fact would  
19 have the same capabilities to compare and analyze the prints themselves or to view other  
20 candidate prints.

21 **5. There is a lack of standards governing the use of fingerprint analysis.**

22 The United Kingdom employs a 16-point minimum, Australia mandates that 12 points be  
23 found in common and Canada uses no minimum point standard. In the United States, state  
24 jurisdictions set their own minimum point standards or have no point standards. The FBI has no  
25 minimum number that must be identified to declare an "absolutely" match, but does rely on a 12-  
26 point "quality assurance" standard.

27 In particular, the ACE-V method does not specify particular measurements or a standard  
28 test protocol, and examiners must make subjective assessments throughout. See 2009 NRC  
Report at 139. Without any overarching standards by which to proceed, fingerprint examiners

1 often differ at each stage of the ACE-V method in the conclusions they reach; and some recent  
2 research has shown that experienced examiners do not even necessarily agree with their own past  
3 conclusions when the same examination is presented to them some time later. See *id.* at 139-143.

4 The lack of standards spans across all aspects of the ACE-V process: 1) there are no  
5 generally accepted or uniform standards for determining whether a latent print is of sufficient  
6 value (that it is of adequate size, clarity, and quality) to be used in a comparison, see OIG Report  
7 at 197; 2) there are no standards for determining what aspects of a print should be examined or  
8 how they should be measured, see 2009 NRC Report at 139; 3) there are no standards for  
9 distinguishing between differences that can be explained and those that prohibit an identification,  
10 4 Mod. Sci. Evid. § 32:46; 4) there are no standards for conducting a fingerprint match  
11 verification, see OIG Report at 122; 5) there are no standards which require examiners to  
12 document which features within a latent print support their reasoning and calculations after a  
13 match, see 2009 NRC Report at 143; and 6) there are no standards for training or certification of  
14 latent print examiners—there is only a voluntary certification process, see 2009 NRC Report at  
15 137. Without any uniform governing standards, the process by which fingerprint matches are  
16 determined cannot be deemed to be reliable.

17 **6. As of the date of the submission of this memorandum in support,**  
18 **there is no evidence regarding the care with which the technique of fingerprint analysis was**  
19 **employed.**

20 **B. Fingerprint evidence is highly prejudicial and should be excluded.**

21 OEC 403 provides:

22 Although relevant, evidence may be excluded if its probative value is  
23 substantially outweighed by the danger of unfair prejudice,  
24 confusion of the issues, or misleading the jury, or by considerations  
of undue delay or needless presentation of cumulative evidence.

25 Fingerprint evidence holds a high degree of persuasive power in the criminal  
26 justice system. A fingerprint match is almost tantamount to a finding of guilty. It is this  
27 perception of fingerprint evidence that makes it so prejudicial and dangerous if presented  
28 in the courtroom setting. Because of the lack of foundational science behind fingerprint

1 identification evidence, and because of its high degree of unfair prejudice, evidence  
2 concerning fingerprint matches should be excluded under OEC 403.

3  
4 **IV. Conclusion**

5 Because of the lack of concrete data regarding the probability of fingerprint matches, the  
6 lack of adequate safeguards against false matches, the heightened danger of unfair prejudice, and  
7 a variety of other factors, defendant moves this court for an order excluding the testimony of any  
8 forensic fingerprint examiner the state intends to call.

9 DATED this 22 of January, 2010.



10  
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13 Attorney for Defendant  
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