# STATE OF NORTH CAROLINA IN THE GENERAL COURT OF JUSTICE

COUNTY OF DURHAM SUPERIOR COURT DIVISION

FILE NOS. 16CRS2168-71

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| STATE OF NORTH CAROLINA  v.  TIMOTHY LEON MOORE | )  )  )  )  ) |  |

**MOTION *IN LIMINE* TO EXCLUDE EXPERT TESTIMONY ON LATENT PRINTS OR IN THE ALTERNATIVE, TO LIMIT SUCH EXPERT TESTIMONY**

TIMOTHY LEON MOORE, by and through counsel, respectfully moves this Court to exclude expert testimony related to latent fingerprint comparison in this case or, in the alternative, to limit the scope and purported level of certainty of the expert’s opinions as detailed below, under the Fifth, Sixth, Eighth and Fourteenth Amendments to the United States Constitution, Article I, §§ 19 and 23 of the North Carolina Constitution, N.C. Gen. Stat. 8C-702, and *State v. McGrady,* 368 N.C. 880 (2016). In support of such, defendant states as follows.

1. Latent prints were recovered from the victim and suspect vehicle in April 2013.
2. The latent prints were analyzed on May 14, 2013, June 12, 2013 and June 21, 2016.
3. Examiner Rebecca Waller stated her opinions as to the analysis of the latent prints in a report dated June 29, 2016. In such report, she identified one of the latent prints as belonging to the left palm print of Timothy Moore.
4. The State has failed to comply with requirements under North Carolina General Statute 8C-702, and *State v. McGrady,* 368 N.C. 880 (2016), which govern the admissibility of expert witness testimony. Any probative value such testimony may have is outweighed by its danger of misleading the jury. N.C. Rule Ev. Rule 403.

**ARGUMENT AND ANALYSIS**

Rebecca Waller should not be permitted to testify as an expert witness for the State pursuant to N.C. Gen. Stat. § 8C-1, Rule 702(a). Rule 702 states:

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 all of the following apply: (1) The testimony is based upon sufficient

facts or data. (2) The testimony is the product of reliable principles and

methods. (3) The witness has applied the principles and methods reliably

to the facts of the case.

The North Carolina Rules of Evidence were amended in 2011 to the above iteration, such that North Carolina now follows the federal standard for the admission of expert witness testimony known as the “Daubert standard.” *State v. McGrady*, 368 N.C. 880, 884 (2016). The statute can be summarized as a “three-step framework – namely, evaluating qualification, relevance, and reliability.” *McGrady* at 892. As such, Ms. Waller’s testimony should be excluded as neither the opinion testimony nor the discipline it is a product of represents foundationally valid science. These deficiencies are compounded by the discipline’s unreasonably high error rates, lack of adequate peer review and study, and admittedly subjective nature.

1. **Ms. Waller lacks the necessary knowledge, skill, experience, training or education.**

From her *Curriculum Vitae* provided as part of discovery it appears that Ms. Waller has been employed as a Latent Print Examiner from January 2010 to present. During such time, Ms. Waller has not completed any certifications related to latent print examinations, and has only completed 46 hours in training related to latent print examination. All of that training was conducted in 2010 – 2011, and six of those hours appear to be related to providing courtroom testimony as opposed to performing examinations. She has not attended any conferences related to latent print examinations since 2010. It does not appear that Ms. Waller has engaged in any continuing education, given presentations, participated in any fellowships, published any scientific papers, or is board certified in the field.

Furthermore, the results of any proficiency training completed by her as required by Durham Police Department policy are unknown at this time. Even so, the proficiency testing used by the Durham Police Department has been deemed inadequate by reputable sources. The President’s Council of Advisors on Science and Technology (PCAST), *Forensic Science in Criminal Courts: Ensuring Validity of Feature-Comparison Methods* 95 (Sept. 20, 2016) [hereinafter “PCAST Report”] (emphasis in original) discussed the issues with proficiency testing in subjective methods such as latent print analysis. Specifically, the PCAST Report discussed issues with the testing service Collaborative Testing Services, Inc. [hereinafter referred to as “CTS”], the same proficiency testing used by the Durham Police Department according to its policies and procedures.

We considered whether proficiency testing, which is conducted by commercial organizations for some disciplines, could be used to establish foundational validity. We concluded that it could not, at present, for several reasons. First, proficiency tests are not intended to establish foundational validity. Second, the test problems or test sets used in commercial proficiency tests are not at present routinely made public—making it impossible to ascertain whether the tests appropriately assess the method across the range of applications for which it is used. The publication and critical review of methods and data is an essential component in establishing scientific validity. Third, the dominant company in the market, **Collaborative Testing Services, Inc. (CTS),** explicitly states that its proficiency tests are not appropriate for estimating error rates of a discipline, because (a) the test results, which are open to anyone, may not reflect the skills of forensic practitioners and (b) “the reported results do not reflect ‘correct’ or ‘incorrect’ answers, but rather responses that agree or disagree with the consensus conclusions of the participant population.”169 Fourth, the tests for forensic feature-comparison methods typically consist of only one or two problems each year. Fifth, “easy tests are favored by the community,” with the result that tests that are too challenging could jeopardize repeat business for a commercial vendor.

PCAST Report at 68. In footnote 170, the PCAST Report notes further that the President of CTS explained that

1. CTS defines consensus as at least 80 percent agreement among respondents and (2) proficiency testing for latent fingerprints only occasionally involves a problem in which a questioned print matches *none* of the possible answers. Czyryca noted that the **forensic community disfavors more challenging tests—and that testing companies are concerned that they could lose business if their tests are viewed as too challenging**. An example of a “challenging” test is the very important scenario in which *none* of the questioned samples match any of the known samples: because examiners may expect they should find *some* matches, such scenarios provide an opportunity to assess how often examiners declare false-positive matches.

*Id* (emphasis added).

Another issue with proficiency testing, depending on Ms. Waller’s results, are whether she knew that she was being tested, and for that reason, may have been more meticulous than in regular practice.

As such, Ms. Waller does not possess the requisite training and experience pursuant to N.C. Gen. Stat. 8C-702 to testify as an expert in this case.

1. **Ms. Waller’s testimony is not the product of reliable principles and methods.**

According to the Durham Police Department Forensic Services Division Friction Ridge Examination Manual, the Durham Police Department employs the “ACE-V” method for Friction Ridge Examination. Fingerprint examiners in the United States have used the “ACE-V” method for more than fifty years, with surprisingly little change in the basic methodology. *See* National Research Council of the National Academy of Sciences, Committee on Identifying the Needs of the Forensic Science Community, *Strengthening Forensic Science in the United States: A Path Forward* 137 (2009) [hereinafter “NAS Report (2009)”]; National Institute of Standards and Technology (NIST), Expert Working Group on Human Factors in Latent Print Analysis, *Latent Print Examination and Human Factors: Improving the Practice through a Systems Approach* 3 (2012) [hereinafter “NIST Report”] at 3; PCAST Report at 89. In the first step, “analysis” **(A)**, the examiner purports to study the latent (unknown) print and assess the quality and quantity of detail present. NIST Report at 3. Details might include both “class” characteristics—characteristics shared or common within certain subgroups of prints—and “individual” characteristics or “minutiae”—characteristics not known to be shared or common within subgroups. S.H. James, *Forensic Science* 4th Edition, CRC Press at 330.

The examiner then “compares” **(C)** the latent print to a “known” print of a suspect.[[1]](#footnote-1) *See* PCAST Report at 89. Based on his/her subjective judgment and experience, the examiner documents what s/he believes to be similarities and differences between the latent and known print(s). NIST Report at 3. To avoid contaminating the comparison stage with cognitive bias, the examiner would have to fully analyze and document the characteristics of the latent print before comparing it to any known suspect print or computer-generated list of known prints. *Id.*; PCAST Report at 99-100.The process by which an examiner fully documents the characteristics of a latent print prior to conducting the comparison is known as “linear ACE-V.” PCAST Report at 17. Nonetheless, many examiners fail to conduct such independent documentation at the analysis stage.

The examiner then “evaluates” **(E)** what s/he views as the similarities and differences between the prints and, again based on his/her subjective judgment and experience, decides his/her level of certainty about whether the prints have a common source and, if so, how to convey his/her opinion as to whether the two come from the same source. *Id.*

Finally, in most latent print analysis, a second examiner will “verify” **(V)** the initial examiner’s analysis. The verification step could theoretically involve a wholly independent and “blind” comprehensive analysis of the latent print, comparison to the known prints, and evaluation by a second examiner. Unfortunately, most “verification” in common latent print examiner practice consists merely of a dependent, non-blind review, meaning that the second examiner sees the analysis and conclusions drawn by the first examiner and knows which examiner s/he is reviewing. NIST Report at 3. *See also* NAS Report (2009) at 138.

*Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579, 592 (1993)*, McGrady*, and N.C. Gen. Stat § 8C-1, Rule 702(a) requires both that an expert’s testimony be the “product of reliable principles and methods” and that the expert “reliably applied the principles and methods to the facts of the case.” *McGrady* at 890. While the *Daubert* Courtmade clear that the ultimate determination of “evidentiary relevance and reliability” is a legal question to be determined by the trial judge, *Daubert*, 509 U.S. at 589, it also made clear that evidentiary reliability in the context of forensic expert testimony is determined by the underlying method’s “scientific validity.” *Id*. at 594-95.

A method’s “scientific validity” rests on a number of factors identified by the scientific community itself. In *McGrady*, the North Carolina Supreme Court explained that *Daubert* articulated five factors from a nonexhaustive list that can have a bearing on reliability: (1) “Whether a theory or technique…can be (and has been) tested;” (2) “whether the theory or technique has been subjected to peer review and publication”; (3) the theory or technique’s known or potential rate of error”; (4) “the existence and maintenance of standards controlling the technique’s operation”; and (5) whether the theory or technique’ has achieved general acceptance” in its field.

The PCAST Report acknowledged *Daubert*’s chargethat evidentiary reliability turns on a method’s scientific validity, and explained that a method is not “scientifically valid” unless it has both “*foundational validity*” (i.e. “products of reliable principles and methods”) and “*validity as applied*” (i.e. “the witness has applied the principles and methods reliably to the facts of the case”). PCAST Report at 4 (emphasis added).

The first reason the expert testimony in this case is inadmissible under *Daubert* and *McGrady* is that it is not “foundationally valid,” meaning that even in principle, the method has not “be[en] shown, based on empirical studies, to be *repeatable, reproducible*, and *accurate*, at levels that have been measured and are appropriate to the intended application.” PCAST Report at 4. Specifically, ACE-V fails this test both because it does not offer a “reproducible and consistent” “matching rule,” *id.* at 48, and because the false positive rate, to the extent it has been subject to two appropriately designed black box studies, is too high to justify reliance on the method as a basis for source attribution statements in a criminal trial.

A significant issue of reliability is the transferability of an impression of that uniqueness to another surface. A latent impression is often only a fifth of the size of the record print. *See*

*United States v. Mitchell*, 365 F.3d 215, 220–21 (3d Cir. 2004) (“Criminals generally do not leave behind full fingerprints on clean, flat surfaces. Rather, they leave fragments that are

often distorted or marred by artifacts. . . . Testimony at the *Daubert*  hearing suggested that the typical latent print is a fraction—perhaps 1/5th—of the size of a full fingerprint.”). “In the jargon, artifacts are generally small amounts of dirt or grease that masquerade as parts of the ridge impressions seen in a fingerprint, while distortions are produced by smudging or too much pressure in making the print, which tends to flatten the ridges on the finger and obscure their detail.” *Id*. at 221 n.1.

*Finger patterns* are different from the *impressions* they make on surfaces, and that a latent *print* and known ink *print* may well have a lot of similarities but still be made by different fingers:

Uniqueness and persistence are necessary conditions for friction ridge identification to be feasible, but those conditions do not imply that anyone can reliably discern whether or not two friction ridge impressions were made by the same person. Uniqueness does not guarantee that prints from two different people are always sufficient different that they cannot be confused, or that two impressions made by the same finger will also be sufficiently similar to be discerned as coming from the same source.

NAS Report (2009) at 144. *See also* PCAST Report at 61 (“The issue is not whether objects or features differ; they surely do if one looks at a fine enough level. The issue is how well and under what circumstances examiners applying a given metrological method can reliably detect relevant differences in features to reliably identify whether they share a common source.”).[[2]](#footnote-2)

A “black box” study of a forensic pattern-identification discipline is an empirical test of the ability of a *subjective* method – that is, a method that relies on the judgment and experience of the examiner, which is in essence the “black box” of the examiner’s head – to render accurate answers to the questions it purports to address. PCAST Report at 49. In short, black box studies attempt to evaluate the accuracy and reliability of a method by having many examiners analyze unknown and known samples and make conclusions. These studies are used to determine error rates in the method. *See* *id*. at 5-6, 48, 49. The rate at which examiners erroneously conclude that two prints have a common source when in fact they come from different sources is called the “false positive rate.”

As the PCAST Report emphasized with respect to subjective methods of pattern-evidence comparison, “nothing—not training, personal experience nor professional practices—can substitute for adequate empirical demonstration of accuracy.” PCAST Report at 46. Because ACE-V remains a subjective, black box examination process, and because it is a process known to produce false positives, the lack of appropriately designed empirical “black box” studies demonstrating the method’s accuracy renders it scientifically invalid as a means of justifying statements of source attribution in court.

In the latent print field, “[r]emarkably, there have been only two black-box studies that were intentionally and appropriately designed to assess validity and reliability.” PCAST Report at 91. The first study was conducted by the FBI in 2011 in response to the NAS Report. *Id.* at 94. The study consisted of 169 fingerprint examiners and 744 latent-known pairs, 520 “mated” pairs, known to be from the same source, and 224 “non-mated” pairs, known to be from two different sources. *Id*. Each fingerprint examiner analyzed 100 pairs of prints and classified them as an identification, an exclusion, or inconclusive. *Id*. The study found six false positive identifications among 3628 non-mated pairs, resulting in a false positive rate of “1 error in 604 cases, with the upper bound indicating that the rate could be as high as 1 error in 306 cases.” *Id*.[[3]](#footnote-3) The PCAST Report noted that the study, while appropriately designed, was conducted by authors with a vested interest in the admissibility of latent print examiner testimony. *Id.* at 97.

The second study was conducted by the Miami-Dade Police Department Forensic Services Bureau, with funding from the National Institute of Justice. *Id.* at 94. While the study has concluded and the results were posted on the internet, it has yet to be published in a peer-reviewed scientific journal. *Id* at 94-95. The study also did not select known-latent print pairs to be similar to each other, “which should, in principle, have made it *easier to declare exclusions* for the non-mated pairs.” *Id* at 95. (emphasis added). Even so, the study still found 42 false positives among 995 conclusive examinations, for an upper-bound false positive rate of 5.4%, or 1 in 18. *Id*.

Viewing these studies together, PCAST remarked that “[t]he empirically estimated false positive rates are *much higher* than the general public (and, by extension, most jurors) would likely believe based on longstanding claims about the accuracy of fingerprint analysis.” *Id.* (emphasis in original).

Overall, the PCAST report found that latent fingerprint analysis was a foundationally valid subjective methodology “based largely” on the two studies mentioned above, but noted that the “false positive rate… is substantial.” *Id*. at 101. They concluded from the studies that “many examiners can, under *some* circumstances*,* produce correct answers at *some* level of accuracy,” that the “empirically estimated false positive rates are *much higher* than the general public (and by extension most jurors) would likely believe based on longstanding claims about the accuracy of fingerprint analysis” and that the two studies yielded false positive rates of 1 in 306 in one study, and as high as 1 in 18 in another study. *Id*. at 94-5 (emphasis in original). Even though the PCAST Report draws the overall conclusion on the foundationally validity of latent fingerprint analysis based on these two studies, the statement that “many” (not all) examiners can under “some” circumstances produces correct answers at “some” level of accuracy, combined with the “substantial” false positive rate, is not the type of confidence that should muster admission of testimony in a criminal trial where the punishment is life without the possibility of parole.

To be sure, fingerprint analysis has been admitted by North Carolina courts. *State v. Irick,*  291 N.C. 480 – 488-89 (1977); *see also State v. Hoff,* 224 N.C. App. 155, 163 (2012); *State v. Parks,* 147 N.C. App. 485, 490-91 (2001).However, there have not been any published North Carolina fingerprint cases examined under the new more stringent *Daubert* standards. “Cases applying the more lenient pre-*Daubert* standard to the reliability prong to hold that evidence is admissible may not be consistent with a result that obtains under the stricter *Daubert* test, and perhaps should be viewed with some skepticism.” Jessica Smith, NC SUPERIOR COURT JUDGES’ BENCHBOOK*,* UNC School of Government, “Criminal Evidence: Expert Testimony,” p. 11 (August 2017).

1. **Ms. Waller’s testimony is not valid as applied.**

Even if ACE-V were somehow a foundationally valid method in principle, the state would be unable to meet its burden to demonstrate that ACE-V is reliable as applied by this examiner in this case – that is, that the examiner is capable of reliably applying the method, that the examiner did actually reliably apply the method, and that the examiner’s particular assertions are scientifically valid. The PCAST Report indicated that

“From a scientific standpoint, validity as applied requires that an expert: (1) has undergone appropriate proficiency testing to ensure that he or she is capable of analyzing the full range of latent fingerprints encountered in casework and reports the results of the proficiency testing; (2) discloses whether he or she documented the features in the latent print in writing before comparing it to the known print; (3) provides a written analysis explaining the selection and comparison of the features; (4) discloses whether, when performing the examination, he or she was aware of any other facts of the case that might influence the conclusion; and (5) verifies that the latent print in the case at hand is similar in quality to the range of latent prints considered in the foundational studies.”

PCAST Report at 102.

First, given the subjectivity associated with latent fingerprint analysis, the PCAST Report concluded that it is “scientifically unjustified” to find that an examiner is capable of a reliable analysis unless he has completed “regular and rigorous proficiency testing.” *Id*.at 101.[[4]](#footnote-4) As discussed above, the proficiency testing of Ms. Waller is unknown at this time, and even if she has undergone regular testing, the state cannot establish that any such testing was rigorous. Indeed, “testing services have stated that forensic community prefers that tests not be too challenging.” *Id.* at 57.]

Furthermore, this Court should consider the extent to which the examiner in the particular case has “taken” “measures . . . to mitigate bias during casework.” *Id.* For example, the examiner should demonstrate that she employed “linear ACE-V” by completely documenting her analysis of the latent fingerprint before looking at any known fingerprint and separately documenting any additional data used during comparison and evaluation. *Id.* at 101. Similarly, safeguards should be in place to ensure the examiner was not exposed to biasing information.

1. **If not excluded entirely by this court, the expert latent print testimony must be limited.**
2. Language used by the examiner

Even if a method is foundationally valid, any expert testimony based on that method must also be foundationally valid. PCAST Report at 54. In particular, “*[s]tatements claiming or implying greater certainty than demonstrated by empirical evidence are scientifically invalid*.” PCAST Report at 54 (emphasis in original). Here, any statement by an expert on the stand that Mr. Moore’s known print “matches” the latent print, or is the source of the latent print, is in essence a statement of absolute source attribution. *See, e.g.*, NAS Report (2009) at 141-42 (“[W]hen a latent print examiner testifies that two impressions ‘match,’ they are communicating the notion that the prints could not possibly have come from two different individuals.”). As detailed above, however, a statement that two prints could not possibly have come from two different individuals is a statement implying certainty that simply has no empirical foundation, even if one assumes that ACE-V is a generally reliable process. The stakes in allowing a latent print expert to testify to an alleged fingerprint “match” are high. Perhaps because juries view forensic testimony with unflinching trust, the use of misleading or embellished forensic expert testimony is one of the leading causes of wrongful convictions.  Brandon L. Garrett, *Judging Innocence*, 108 Colum. L. Rev. 55, 83-84 (2008). These concerns are heightened when an expert makes grandiose claims of source attribution based on pattern evidence. As one jurist wrote in condemning the testimony of a toolmark examiner thatmarkings on the bullets were “unique” to a gun recovered from a defendant’s apartment: “This is not evidence on which we can in good conscience rely, particularly in criminal cases, where we demand proof—real proof—beyond a reasonable doubt, precisely because the stakes are so high.*” Williams v. US*, 130 A.3d 343, 355 (2016) (Easterly, J., concurring) (disapproving of improperly admitted expert claim of certainty but affirming on plain error grounds).

Finally, examiners should never be allowed to testify to “scientifically indefensible claims such as: ‘zero,’ ‘vanishingly small,’ ‘essentially zero,’ ‘negligible,’ ‘minimal,’ or ‘microscopic’ error rates; ‘100 percent certainty’ or proof ‘to a reasonable degree of scientific certainty;’ identification ‘to the exclusion of all other sources;’ or a chance of error so remote as to be a ‘practical impossibility.’” PCAST Report at 19. Such statements “are not scientifically valid.” *Id. See also* NAS Report (2009) at 142-43 (“claims that… [fingerprint] analyses have zero error rates are not scientifically plausible.”); National Commission on Forensic Science, *Recommendations to the Attorney General Regarding Use of the Term “Reasonable Degree of Scientific Certainty”*(Approved March 22, 2016) <https://www.justice.gov/ncfs/file/839731/download>.

The PCAST report suggested that forensic scientists instead use the term “proposed identification” in order to “appropriately convey the examiner’s conclusion, along with the possibility that it might be wrong” PCAST Report at 45.

1. Qualify opinion by acknowledging the level of certainty in any conclusion

If Ms. Waller is allowed to testify at all, even without a statement about a “match,” her opinion about the similarities between the latent print and Mr. Moore’s known prints will be an implicit signal to the jury that these similarities must have some probative value in the case (otherwise, the judge would have presumably excluded the her testimony as irrelevant). The unadorned opinion of the expert about similarities in the pair of prints, without any information about the high error rate, will leave the jury to determine for itself the probative value of such similarities. Given lay jurors’ grossly inaccurate assumptions about the false positive rate of fingerprint examiners, *see* PCAST Report at 95 n. 282 (citing a study showing that mock jurors believed the false positive rate was 1 in 5.5 million), allowing the expert testimony without an explicit qualification of the level of uncertainty would be both contrary to the requirement of foundational validity and unduly prejudicial. *See also* PCAST Report at 56 (requiring, to establish validity “as applied,” that the expert report the false positive rate when testifying).

Therefore, if her testimony is permitted, Ms. Waller must be required to inform jurors and qualify her opinion that “(1) only two properly designed studies of the accuracy of latent fingerprint analysis have been conducted and (2) these studies found false positive rates that could be as high as 1 in 306 in one study and 1 in 18 in the other study. This would appropriately inform jurors that errors occur at detectable frequencies, allowing them to weigh the probative value of the evidence.” *Id*. at 96.

1. Omit reference to Automated Fingerprint Identification System (AFIS) and/or State Automated Fingerprint Identification System (SAFIS).

Based on the report received by Ms. Waller as provided in discovery, it is believed that Ms. Waller first ran the latent print against Automated Fingerprint Identification System (AFIS) and/or State Automated Fingerprint Identification System (SAFIS). AFIS is a database containing large numbers of known prints from various sources, most namely when a person is arrested and then fingerprinted. The system uses image-recognition algorithms to generate a list of potential candidates that share similar fingerprint features. Then, the examiner manually compares the latent print to the fingerprints from the closest candidate matches generated by the computer by studying selected features and then comes to a subjective decision as to whether they are similar enough to declare a proposed identification.” PCAST report at 89.

Mention of using this system to help identify the latent print should be excluded under N.C. R. Evid. 403 for two reasons. First, its mention would signal to the jury that Mr. Moore’s fingerprints were “in the system” because he had prior arrests. Second, and perhaps more dangerously, mention of the program may improperly convey to the jury that the computer, and not the examiner, identified Mr. Moore’s palm print as belonging to the latent print. The prejudicial effect of this testimony outweighs any probative value. If Ms. Waller or any other examiner’s testimony is allowed, she will still be able to convey her opinions without mention of this step in the process.

1. Omit reference to the “verification” process absent testimony of the verification examiner

Ms. Waller must be excluded from providing any testimony that another examiner verified the latent print as belonging to Mr. Moore during the verification process. Allowing such testimony would violate Mr. Moore’s rights confrontation rights under the Fifth, Sixth, and Fourteenth Amendments to the United States Constitution and and *Crawford v. Washington*, 541 U.S. 36, 37, 124 S. Ct. 1354, 1356, 158 L. Ed. 2d 177 (2004).

1. Limit testimony to opinions stated in the report

Pursuant to N.C. Gen. Stat § 15A-902(a), Ms. Waller’s testimony must be limited to those opinions provided in discovery to Mr. Moore.

**CONCLUSION**

For the reasons stated above, this Court should exclude the State’s proffered latent print expert testimony or, in the alternative, limit and qualify it in the manner discussed above.

Respectfully submitted, this the \_\_\_\_ day of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2017.

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**CERTIFICATE OF SERVICE**

THIS IS TO CERTIFY that the undersigned attorney served a copy of the foregoing Motion on the State of North Carolina by hand delivery:

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This, the \_\_\_\_ day of \_\_\_\_\_\_\_\_\_\_\_\_\_\_, 2017.

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1. If no suspect has been identified, the examiner may compare the latent print to a computer-generated list of potentially similar reference prints housed in a database of known fingerprints. PCAST Report at 89. [↑](#footnote-ref-1)
2. This is precisely what happened in the “Mayfield case,” where Brandon Mayfield was falsely identified by FBI examiners using ACE-V as the source of latent prints on a bag of detonators linked with the 2004 Madrid train bombings. U.S. Dep’t of Justice, Office of the Inspector General, *A Review of the FBI’s Handling of the Brandon Mayfield Case* 1 (2006) [hereinafter “OIG Report (2006)”]. Indeed, an FBI examiner concluded with “100 percent certainty” based on ACE-V that the latent print and Mayfield’s exemplar – which was one of several prints identified as possible matches on a computer-generated list – were in agreement at 15 “points” of comparison and were therefore definitely a match. *Id.* The alleged match was then “verified” by *two* FBI supervisors *and* the same conclusions was subsequently reached by a court-appointed independent fingerprint examiner. *See* Cole (2005) at 986; OIG Report (2006) at 1-3.Nonetheless, two weeks later, after Spanish authorities found the real perpetrator and confirmed that his prints were a better “match,” Mayfield was released from custody and cleared of all suspicion, with the FBI issuing an apology. *Id.*

   [↑](#footnote-ref-2)
3. A follow up study by the same authors several months later took 75 examiners and a subset of pairs from the first study and allowed some of the examiners to reexamine the pairs that led to false positives in the first study. Not surprisingly, there were no false positives reported this time around, although the reported upper bound of a 95% confidence interval would still be a false positive rate of 1 in 160. *Id*. [↑](#footnote-ref-3)
4. “Rigorous proficiency testing” includes, *inter alia*, double blind proficiency testing on samples that represent the full range of latent prints encountered in casework and broad disclosure of proficiency tests to the scientific community for evaluation of the tests. *See id*. at 57-58, 102, 134. [↑](#footnote-ref-4)