

CHAPTER FIVE
OFFICE OF THE INSPECTOR GENERAL'S ASSESSMENT OF THE
FBI LABORATORY'S RESPONSES TO THE
FINGERPRINT MISIDENTIFICATION

Following discovery of the error, the FBI Laboratory initiated several actions, including: (1) a comprehensive internal review of FBI Laboratory Latent Print Units (LPU) policies and procedures, (2) corrective action with respect to the examiners involved in the error, (3) a review of prior Integrated Automated Fingerprint Identification System (IAFIS) identifications from digital prints, and (4) an ongoing review of prisoners scheduled for capital punishment who may have been convicted or sentenced based on an FBI fingerprint identification. The OIG's assessment of these actions is provided below.

I. The Latent Review Team Recommendations

In response to the International Panel's reports, the FBI Laboratory implemented a comprehensive review of practices in the LPU. Seven different Latent Review Teams were assembled, composed of forensic experts from other units of the FBI Laboratory and from outside organizations. No LPU employees participated on the teams. Each Latent Review Team addressed one of the following subject areas:

- Policies for examining and reporting cases with "less than original evidence;"
- Documentation and Case Notes;
- Technical and Administrative Review;
- Management and Organizational Structure;
- Training;
- Standard Operating Procedures Review; and
- Science of Latent Fingerprint Identification.

The Latent Review Teams generated reports addressing 41 separate issues. Each report contained specific recommendations for action by the LPU. The recommendations were reviewed by the LPU Unit Chiefs prior to being finalized. According to Melissa Smrz, the Section Chief in the FBI Laboratory in charge of the LPU, all recommendations set forth in the Latent Review Team reports will be implemented by the LPU.

The OIG has reviewed these reports and recommendations in light of the OIG's findings regarding the causes of the misidentification of Latent Fingerprint 17 (LFP 17), and has discussed these recommendations with its expert consultants. If implemented, many of these recommendations will result in significant changes to the procedures, organization, and workload management of the LPU. In the subsections below, the OIG addresses the most significant recommendations made by the Latent Review Teams. Generally, the OIG found that many of the Latent Review Team recommendations were relevant to the sources of the Mayfield error and are likely to help prevent future errors of this sort. In some cases, the OIG suggests refinements to the recommendations, or identifies ambiguities in the recommendations or tension between recommendations of different teams. We also present additional recommendations for action in this chapter.

A. Research Projects

The Latent Review Teams issued recommendations for major research projects relevant to the latent fingerprint discipline. The FBI Laboratory has already begun funding some of this research. The projects recommended by the Latent Review Teams include:

- Research aimed at developing and testing the validity of a minimum quantitative threshold for effecting an identification that takes into account all levels of detail and the clarity of the print;
- Research to test the hypothesis that Level 2 and Level 3 details occur on the friction ridges as independent, random events;
- Testing examiner performance in a rigorous, controlled manner to determine accuracy of performance;
- Comparison of the performance of examiners using a subjective approach (i.e., the "Ridgeology" approach described in Chapter Three) to those using a minimum threshold of points; and
- Research to determine the permanence of Level 3 details and features on the lower joints, soles, and palms.

Recommendation 1 The OIG suggests one modification of this list of research projects. It appears to the OIG that the debate regarding the utility of Level 3 detail in latent fingerprint examination relates at least as much to the *reproducibility* of tiny Level 3 details under the myriad conditions of latent fingerprint deposition as it does to the *permanence* of such features in the friction skin. By reproducibility, we refer to the issue of whether Level 3 details are reproduced in latent prints with sufficient consistency and reliability of

appearance to provide valid individualizing power. As shown above, the Mayfield identification is an important case study for this debate. Therefore, the OIG suggests that the FBI Laboratory consider shifting at least some of the emphasis on research of Level 3 detail from the issue of permanence to the issue of reproducibility and defining the circumstances under which Level 3 detail should be utilized.

Recommendation 2 The OIG agrees with the recommendations of the Latent Review Team directed at developing more objective criteria for declaring identifications and at providing scientific validation for the FBI Laboratory's methods of latent fingerprint examination. If successful, these projects will address some of the issues repeatedly raised by critics of both the discipline in general, and the Ridgeology Standard in particular.

The OIG believes that the utilization of more objective criteria for identifications, if such criteria can be developed, may provide a greater margin of safety in latent fingerprint identifications than is provided by a wholly subjective approach in which an examiner's initial or "gut" reaction to a comparison might lead him to overlook important ambiguities or differences in the prints.

B. Revision of the Standard Operating Procedures (SOPs)

One of the Latent Review Teams conducted a detailed review of the LPU's SOPs and made several recommendations for major revisions of the SOPs, including:

- Defining each phase of the ACE-V (analysis, comparison, evaluation, and verification) process in greater detail and listing and defining the step-by-step procedures involved in the examination process in greater detail;
- Adopting more specific definitions of each of the three levels of detail;
- Defining the "quality" and "quantity" aspects of examination;
- Establishing criteria to determine a latent fingerprint to be a print "of value," including minimum latent print quality considerations;
- Developing a consistent policy for determining and documenting "cluster prints" (simultaneous prints), including a requirement that at least one area of the cluster meets the identification threshold on its own; and

- Elimination of the “12-point rule” that required supervisory review of identifications made on the basis of fewer than 12 Level 2 ridge deviations.

Recommendation 3 Based on its review of the facts of the Mayfield misidentification and discussions with our expert consultants, the OIG concluded that many of these Latent Review Team recommendations are appropriate and some could help to prevent future errors of the type that occurred here. We agree that an effort should be made to add detail to the existing protocols/SOPs regarding the definitions and processes in each component of ACE-V. We found that although the LPU examiners committed methodological errors as described above in Chapter Four, the steps taken by the examiners in this case did not specifically contravene any criterion, recommendation, method, or prohibition set forth in the applicable LPU or SWGFAST standards.

As previously noted, the primary documents governing the examination of LFP 17 were the Examination SOPs (Appendix F), the SWGFAST Friction Ridge Examination Methodology for Latent Print Examiners (Appendix G), and the SWGFAST Standards for Conclusions (Appendix H). These documents comprise a total of 11 pages. Much of the contents are repetitive and all of them are stated in vague and general terms. Nothing in the existing standards governing the LPU prohibited, discouraged, or even addressed the process of circular reasoning by which Green apparently allowed the Mayfield exemplar to bias his interpretation of LFP 17. Nothing in these documents prohibited an examiner from “cherry-picking” helpful Level 3 details to support an identification while discarding those which did not, or described the circumstances under which Level 3 detail is sufficiently reliable to use. Nothing in the standards required the examiners to justify their explanations for differences in appearance between the latent and known prints on the basis of objective information from the print or the crime scene to demonstrate any degree of certainty with respect to such explanations, or even to document the differences or explanations at all. Likewise, although all of the OIG consultants agreed that lesser individualizing weight should be assigned to a Level 2 ridge deviation found in agreement when the examiner cannot determine whether the point is a bifurcation or an ending ridge until he sees the exemplar print, nothing in the existing standards gives any such instruction to LPU examiners. In short, the examiners were able to make all of the decisions described above that contributed to the erroneous identification without violating any specific provision of the applicable LPU or SWGFAST standards.

The OIG believes that the absence of policies or standards sufficiently specific to have addressed the errors committed in this case led the Laboratory to provide the ultimately unenlightening explanation in some internal briefings that the identification was the result of “human error.” Given the fact that four

different examiners made the same error, we believe that the more systemic causes described in Chapter Four were in play. The fact that the examiners' conduct contravened no existing standards suggests that more detailed and explicit standards are needed.

A useful example of a document containing more specific standards for conducting latent fingerprint examinations can be found in INTERPOL's "Method for Fingerprint Identification" (Parts 1 and 2), which was designed to accommodate both the Ridgeology Standard and the Numerical Standard for declaring identifications.¹³⁹ We recommend that in carrying out the revision of the SOPs, the Laboratory consult the INTERPOL Method as an example of a standard for examinations that provides a much higher level of detail in the description of examination steps and the application of principles of identification than is available in the existing SOPs and the SWGFAST Methodology and Standard.

Recommendation 4 The SOPs should be revised to explicitly require that the examiner must achieve a degree of certainty with respect to each "explanation for differences" that is consistent with, and equivalent to, the standard of certainty required for the conclusion of identification. Accepting explanations that are merely plausible or reasonable, but for which the available evidence is mixed, is not consistent with the absolute certainty claimed for latent fingerprint identifications. Where the requisite certainty for explanations is not achieved, the appropriate conclusion is "inconclusive" or "exclusion."

Recommendation 5 The SOPs should be revised to define the circumstances under which the clarity of a latent fingerprint is sufficient to support the utilization of Level 3 details to support an identification. The SOPs should also require that the examiner consult all versions of the available known prints of the subject to determine whether any Level 3 details utilized to support the identification are reliably and repeatably reproduced. The SOPs should require that the examiner apply "fair reasoning" in utilizing Level 3 details that support the identification so as to avoid the selective use of supporting Level 3 details.

Recommendation 6 The SOPs or other Laboratory policies should be revised to address the circumstances under which a different forensic laboratory disagrees with an identification decision by the FBI Laboratory to ensure that the reasons for the disagreement are fully understood before the FBI

¹³⁹ Available at <http://www.interpol.int/Public/Forensic/fingerprints/>. We refer to this document without endorsement of all of the substantive standards set forth in it, but rather as an example of written standards containing a higher level of detail than is contained in existing SOPs and policies.

Laboratory ratifies its initial conclusion. In such cases, the Laboratory should assign new examiners to conduct a complete ACE-V examination of the disputed print.

Recommendation 7 The OIG agrees with the Latent Review Team recommendation that criteria be developed for the use of “cluster prints.” The OIG agrees on the need for such criteria, particularly in light of the inconsistent statements made to the OIG regarding whether anyone at the Spanish National Police (SNP) or the FBI Laboratory ever determined that LFP 17 and LFP 20 were simultaneously deposited on the basis of the relative positioning of the prints on the blue plastic bag. We found that there are no clear or consistent standards in the LPU for declaring multiple fingerprints to have been deposited simultaneously.

There is one aspect of the Latent Review Team recommendation that is confusing, however. The requirement that one area of the cluster (i.e., friction ridge detail from a single finger) meet the identification threshold standing on its own appears to be inconsistent with a major purpose of identifying cluster prints, which is to permit identification based on detail from two fingerprints where the detail in a single print is insufficient. If the recommendation is adopted, a major reason for making a determination of cluster prints would be eliminated and there would be much less value to developing criteria for making such a determination.

Recommendation 8 The OIG recommends that the LPU SOPs be revised to clarify that the “inconclusive” conclusion is available to examiners in cases where the latent fingerprint is deemed “suitable for comparison,” but the examiner is unable to achieve adequate certainty either as to the quantity and quality of detail in agreement or as to the sufficiency of his explanations for differences. The LPU examiners we interviewed stated that the usual practice when an examiner is unable to reach a decision of identification or exclusion is to revise the analysis and declare the latent print to be of “no value” for identification, except in a limited category of cases.¹⁴⁰ The “no value” declaration results in the latent print being discarded with no information being shared with investigators regarding the existence of a subject who could not be excluded as the source of the print. This practice is not fully consistent with the SWGFAST Standards, which acknowledge that a print can be “suitable for comparison” but an examiner can nonetheless reach an “inconclusive” result after comparison. For example, the examiner may find a latent print to

¹⁴⁰ The example given by several examiners for use of the use the “inconclusive” result is when the known prints are of poorer quality than the latent. This practice is consistent with the Laboratory’s stated criteria for reaching the “inconclusive” result, which focuses on cases in which relevant detail is absent from the exemplar print.

be clear enough for comparison, but determine during the comparison phase that he lacks sufficient certainty as to the validity of possible explanations for dissimilarities. The OIG consultants agreed that LPU should have greater flexibility to make use of the “inconclusive” result where there is inadequate certainty to declare a match. Use of the “inconclusive” result could be consistent with alerting investigators that there is a specific suspect who could not be excluded as the source of a latent print.¹⁴¹

Recommendation 9 The OIG concurs with the Latent Review Team recommendation that the “12-point rule” be eliminated. This rule is inconsistent with the Ridgeology standard as currently utilized by the LPU. As noted above, the Latent Review Teams have recommended research aimed at developing and testing the validity of a minimum quantitative threshold for effecting an identification which takes into account all levels of detail and the clarity of the print. If such research results in the articulation of a new objective threshold for identification, such a threshold would logically render the 12-point rule redundant.

C. Documentation

As noted above, the LPU standards in place at the time of the Mayfield identification did not require any documentation of the different phases of the ACE-V process other than the statement of a conclusion. The Latent Review Team that examined the LPU documentation requirements recommended a dramatic expansion of the case documentation requirements for latent print examinations. The most important of these was the recommendation that the LPU adopt an SOP or policy regarding the documentation of (1) characteristics that contribute to an inclusion/exclusion during the comparison process, (2) discrepancies/dissimilarities observed and explained during the comparison process, and (3) Level 1, 2, and 3 details utilized during the comparison process. The same report also recommends that: “If during the comparison process, an ‘Ident’ is made, the case notes should reflect the process by which the ‘Ident’ was made and the comparison details that were used. This can be done by enlarging a photograph and annotating it with arrows, lines or other methods to show details used.”

¹⁴¹ The OIG concurs with the Latent Review Team recommendation for the establishment of criteria to determine a latent fingerprint to be a print “of value,” including minimum latent print quality considerations, to the extent that this recommendation is *not* construed as an endorsement of the existing practice of using the “no value” category as a substitute for an “inconclusive” conclusion. In other words, it will be useful to develop more specific criteria for declaring a print to be “suitable for comparison,” but once having made that determination as to a particular print, the LPU should not continue the practice of revising that determination in cases when the examiner can neither identify nor exclude a particular subject as the source of the print.

The Latent Review Team with responsibility for review of the LPU's SOPs made similar recommendations, to the effect that the "[f]ull and complete detail of all consistencies, explainable dissimilarities and discrepancies [should be] documented and retained in the case file."

Recommendation 10 The OIG agrees with the Latent Review Team recommendations for more extensive documentation requirements. The absence of substantive documentation requirements is a conspicuous shortcoming of the current SOPs. We believe that there is a strong possibility that if the examiner and verifier had been required to document the analysis and comparison phases of their examinations, they might have noticed more dissimilarities and appreciated the cumulative impact of them before reaching their flawed conclusions. They might also have had greater appreciation for the low quality of the admitted similarities between the latent and the Mayfield known prints. We believe that documentation would have facilitated a more objective comparison and evaluation, regardless of the particular standard utilized to declare an identification.

The absence of any substantive documentation requirement under existing guidelines significantly impacted the OIG's ability to determine the cause of the Mayfield error. The mental processes and criteria utilized in making the identification are only partially reflected in the documentation in this case (because of the creation of charted enlargements), and in other cases are not documented at all. No contemporaneous record exists of the explanations accepted by the examiner for numerous dissimilarities in the prints. We therefore had to rely primarily on the imperfect recollection of witnesses for this critical information and were unable to obtain the recollection of the verifier, Massey. Although there was a good contemporaneous record of the similarities utilized in this case, the existence of such records was a fortunate anomaly and not the result of any policy.

The OIG believes that more rigorous documentation of the phases of the examination process will help enhance accuracy and avoid errors like the Mayfield misidentification by:

- Promoting completion of all steps in the examination process, including the pre-comparison analysis phase;
- Promoting reproducible application of whatever revised criteria for identification or exclusion are ultimately adopted by the LPU, making the identification process more transparent and controllable;
- Promoting full and explicit identification of differences in appearance between the latent print and the exemplar, as well as greater appreciation of the cumulative impact of multiple differences; and

- Facilitating review of the causes of errors.

Adoption of the Latent Review Team recommendations regarding documentation will result in dramatic changes in the way the LPU handles cases. The FBI Laboratory deserves credit for undertaking such a significant reform. The documentation requirements will obviously have a major impact on the speed with which the LPU can process cases. Thus, it is important that the Laboratory and others appreciate that this reform cannot be achieved without a significant increase in the LPU's manpower or reduction of the LPU's case load, and that after this reform is adopted, the productivity of individual examiners in the LPU cannot fairly be compared with pre-reform numbers. It appears that additional reforms suggested by the Latent Review Teams will address this matter at least in part by reducing the number of cases accepted from state and local law enforcement agencies.

Recommendation 11 The OIG recommends that the FBI Laboratory consider a refinement of the proposed changes to the documentation requirements in the SOPs. Although the proposals regarding documentation would require identification of the Level 1, 2, and 3 features that contributed to the examiner's conclusion, they do not appear to require any documentation of the analysis phase. Documentation of the features and "red flags" observed during the analysis phase will help prevent circular reasoning in which features in the known prints can influence an examiner to find such features in the latent print, even though they may not be there. Where feasible, a record should be made of the analysis phase of the examination, including recording the location and type (if known) of the features perceived at that phase. Ashbaugh specifically recommends such documentation of the analysis phase, at least for certain complex latent prints.¹⁴² Creation of such a record will help assure that the examiner assigns lesser individualizing weight to any features in the latent print that are not discovered until after the exemplar prints are compared, and lesser individualizing weight to a Level 2 detail found in agreement when the examiner cannot determine whether it is a bifurcation or an ending ridge until after he sees the exemplar print.

However, we recognize that creation of a record of the analysis phase could be burdensome and potentially wasteful in the case of IAFIS searches that do not result in identifications, which is a common occurrence. We recommend the following potential solution for this problem. In the case of IAFIS searches, the requirement to fully document the analysis could be postponed until the examiner determines, based on a preliminary non-exhaustive initial comparison, that one of the candidate's exemplars is sufficiently similar to the latent print to warrant a more rigorous,

¹⁴² Ashbaugh, pp. 112-113.

comprehensive comparison. At that point, the SOP would require the examiner to put the exemplar aside and complete the documentation of his analysis of the latent print before proceeding to the comparison and evaluation phases of the examination.

D. Verification Procedures

The Latent Review Team found that the existing verification procedures are informal and may contribute to “confirmation bias” due to the verifier’s knowledge that another examiner in the Laboratory had already made an identification. In response, the Latent Review Teams recommended that the verification procedures in the SOPs be modified to require one “blind” verification per Laboratory report, in which the initial examiner would provide the verifier with a decoy latent print and decoy exemplar in the verification along with the latent print and exemplar that had been matched by the initial examiner. All other identifications in the case would be verified in the normal manner after the blind verification is completed. Up to 10 percent of the blind verification packages would involve “challenging” non-identifications, so that the verifier would know there was a chance that none of the prints in his package had previously been matched by another examiner. In addition, the current practice that verifications are documented solely by the verifier’s signature would be modified; all verifications would be required to be documented using the same procedures used by an examiner during an “identification” annotation. Further, the Latent Review Team recommends that a conflict resolution process be formalized and implemented in the LPU. The circumstances under which this process would be invoked include cases in which a verifier reaches a different conclusion than an examiner and resolution cannot be accomplished by consultation between them.

Recommendation 12 The OIG concurs with the Latent Review Team recommendations regarding verification procedures. As previously noted, the OIG did not find sufficient evidence to conclude that the FBI’s verification procedures introduced a bias that prevented or discouraged the verifier from challenging the initial examiner’s conclusions in this case. The OIG believes, however, that the new verification procedures recommended by the Latent Review Team will promote more diligent and thorough examinations by verifiers in all cases. In particular, the requirement that each verification include full documentation of the ACE phases of the verifier’s examination, and that the similarities and explanations for differences utilized by the verifier be recorded, will enhance thorough verifications.

Recommendation 13 The OIG also believes that the use of blind verifications with decoy prints and up to 10 percent non-identifications may also promote thorough and independent verifications.¹⁴³

We question the efficacy of the particular model of blind verification selected by some of the Latent Review Team, however. The point of introducing decoy prints and occasional non-identifications into the blind verification process is to assure that the verifier is doing a careful examination and not merely “rubber stamping” the initial identification. Under the proposal adopted by the Latent Review Team, this benefit may be lost in a case involving multiple identifications because the verifier will be able to tell which verification potentially involves decoy prints and non-identifications. (These would apparently be the first verification in each case, since the proposal states that other verifications in the case would take place after the blind verification). Moreover, the blind verification would be the only verification involving two unmarked photographs of latent prints. While the verifier would clearly be motivated to conduct a meticulous examination in the course of a blind verification, the incentive to do so would potentially be lost in subsequent verifications in the same case because the verifier would know they are not “blind.”

We believe that a better solution would be to submit decoy non-identifications (latent fingerprints that do not match the exemplar) in a small percentage of *all* verifications. As a result, for any comparison the verifier would be aware of the possibility that no identification has previously been made. We also believe that to assure independence and objectivity in the verification process, the examiner who made the initial identification should not be involved in selecting the decoy prints or challenging non-identifications for use in the blind verification package.

Recommendation 14 The OIG recommends that the LPU consider requiring a second independent verification for those cases in which there is only one latent print identified to a subject and the subject was identified as the result of an IAFIS search. This circumstance, which involves an extremely narrow category of cases but one that would have included the Mayfield case, addresses the circumstances under which the potential for initial examiner error may be the greatest and the consequences of the error may be especially significant.

¹⁴³ The success of this reform will depend on whether the decoy prints require sufficiently challenging examinations to prevent the examiner from finding the previously matched prints with a superficial comparison. One of the OIG’s consultants expressed concern that close non-matches that are challenging to exclude are rarely encountered, so that finding such prints for use as challenging decoys in the blind verifications may be difficult.

Recommendation 15 The OIG recommends that the LPU give consideration to alternatives to the use of “dispute resolution” in cases of refused verifications. The OIG perceives a potential tension between the concept of the verification stage as a significant screen or hurdle in the identification process and the requirement that any disagreement by a verifier be treated as a “conflict” requiring “resolution.” SWGFAST has stated that it is possible for two competent examiners with differing levels of training, experience, and ability to reach different conclusions about a comparison, such as when one examiner finds enough detail in agreement to declare an “identification,” but another finds insufficient agreement and reaches an “inconclusive” conclusion. According to SWGFAST, such a disagreement may not imply an error by one expert, but rather differences in their training, experience, or ability.

The point of the verification phase is to add a layer of certainty to an identification by requiring that two independent qualified examiners reach the same conclusion. Invoking conflict resolution to achieve agreement between the examiner and the verifier potentially dilutes the stringency of the verification requirement. The LPU witnesses told the OIG that disagreements by verifiers are already extremely unusual, which suggests to the OIG that the verification phase may not be a significant screen in the identification process. Requiring conflict resolution in those rare situations may undercut the independence of the verification step by allowing the verifier in some cases to be “talked into” agreement with the examiner through conflict resolution, particularly if the alternative is for the verifier to be formally adjudged “wrong” at the conclusion of the process.¹⁴⁴

The OIG recommends that the LPU consider alternatives to treating refused verifications as potential errors requiring resolution. For example, the LPU could respond to such rare cases by requiring a full examination and verification by different examiners not previously involved with that identification. In other words, refused verifications would require a new examiner to start over with the examination.

E. Training

One of the Latent Review Teams assessed training requirements in the LPU and found that the existing LPU training program is deficient in conveying the theoretical underpinnings of friction ridge uniqueness. The team made several recommendations to the Laboratory for action, including:

¹⁴⁴ This tension is already present under existing procedures, which require that refused verifications be resolved by a supervisor or Unit Chief.

- Contracting with an external source to provide comprehensive friction ridge theory and ACE-V training to the LPU, with testing of all attendees in each element of the training;
- Preparing a friction ridge theory and ACE-V training module for future training;
- Incorporating Ashbaugh as required reading in the training module; and
- Increasing attendance of FBI examiners at International Association for Identification (IAI) conferences.

The OIG agrees that enhanced training could help the LPU avoid erroneous identifications in the future. We believe that the misidentification of LFP 17 provides a useful case study in support of several specific principles of latent print identification that should be emphasized in the training including: (1) the need to complete the analysis prior to the comparison phase in order to avoid circular reasoning; (2) the need to assess similarity in terms that go beyond directions and ridge counts, taking into consideration the distances between points and along ridges; (3) the circumstances under which Level 3 detail should be deemed reliable; and (4) the need to apply the same degree of certainty with respect to explanations for each difference in appearance between prints that is required for declaring an identification. The OIG notes that a second updated training may have to be implemented if the LPU's stated plans for future research for modification of the SOPs results in significant changes to the standards for identification, such as by utilizing more objective standards for identification.

II. Review of Prior IAFIS Identifications from Digital Prints

In response to the misidentification of LFP 17, the LPU undertook a review of all cases resulting in a latent print identification from an IAFIS search in which the latent print was a digital image (e.g., submitted to the LPU on compact disks or diskettes or submitted via e-mail or facsimile), where no original evidence was received by the laboratory. According to a Summary Report prepared by the FBI Laboratory, 16 latent fingerprints meeting these criteria have been identified from IAFIS searches, or slightly more than 1 percent of all prior identifications from IAFIS searches. According to a memorandum prepared by LPU Unit Chief Meagher describing this review, each such identification was reexamined by a different examiner with no knowledge of the original examiner's conclusions.

The Laboratory reported that upon reexamination, all 16 latent fingerprints were again identified with the same finger of the same person as originally reported. In other words, no false positives were detected. In addition, as a result of this reexamination, three additional latent fingerprints included in the same Laboratory submissions were identified by means of an IAFIS search.

The Laboratory's decision to conduct a reexamination of this small category of IAFIS identifications was made shortly after the Mayfield error was detected. As noted earlier, for a short period of time the Laboratory publicly stated that the error was attributable at least in part to the allegedly degraded quality of the digital images made available to the FBI by the SNP. As previously explained in Chapter Four, the OIG determined that these factors were not major contributing causes of the erroneous identification. None of the Laboratory personnel interviewed by the OIG attributed the error to the quality of the digital images of LFP 17 utilized by the Laboratory to identify Mayfield, and neither did any of the members of the International Panel or any of the OIG consultants.

It therefore appears that the Laboratory's reexamination project, while commendable in purpose and intent, was so limited in scope as to not be responsive to any significant cause of the Mayfield misidentification. If the use of digital images did not cause the error, then the reexamination of a handful of cases that were based on identifications of digitally submitted prints will not address the root cause of the misidentification.

Recommendation 16 The Laboratory should consider a broader category of IAFIS identifications for reexamination. The factors that the International Panel and the OIG found to be causes of the misidentification could have affected identifications in a larger category of cases than those involving digital images. The OIG is not necessarily recommending reexamination of every FBI Laboratory identification that resulted from an IAFIS search, which would involve approximately 1,200 latent print identifications. One useful narrowing criterion for the Laboratory to consider would be cases in which the identification of a criminal suspect was made on the basis of only one latent fingerprint searched through IAFIS. We recognize that when a suspect has been identified from two or more latent prints, the likelihood of error arising from a confusingly similar non-match would appear to be much smaller. The criterion we are suggesting for reexamination would therefore focus on a category of cases, like the Mayfield case, in which the existing safeguards against an erroneous identification based on a confusingly similar non-match are not as great.

III. Capital Case Review

The Laboratory and the Criminal Division of the Department of Justice began a monthly “Capital Case Review” of prisoners awaiting execution to determine whether the LPU conducted a fingerprint identification in the case for which the individual was sentenced to be executed, or in an earlier case which may have been an aggravating factor in the death penalty phase. If such a case is identified, the relevant latent print identification will be reviewed for accuracy. To date, no such case has been identified.

Recommendation 17 The OIG recommends that the FBI consider continuing the monthly Capital Case Review or adopting another procedure sufficient to accomplish the same objective. LPU Unit Chief Wieners told the OIG that the administrative burden of determining whether an upcoming execution is related to an LPU identification is small. The apparent purpose for the review is the possibility, however remote, that other misidentifications might have occurred in prior capital cases. The only basis that the OIG can identify for suspending this effort would be if its investigation of the Mayfield case revealed that the causes of the Mayfield error could not have resulted in any other misidentifications. The OIG believes that the circumstances in the Mayfield case – especially the close (but not perfect) agreement in the relative location of as many as 10 Level 2 ridge deviations and the ridge counts between them – are probably extremely unusual, but we cannot say with certainty that such circumstances were never present in any other case. The methodological errors that the OIG identified, such as circular reasoning and rationalizing differences in appearance, could occur in other cases. Therefore, the OIG recommends that the Capital Case Review procedure continue or that another procedure sufficient to accomplish the same objectives to be adopted.

IV. Corrective Action

Section 7.1 of the FBI’s LPU Quality Assurance Manual, Technical/Casework Review (Revision 2, issued June 2, 2003) (Manual), describes three types of errors requiring corrective action:

- Administrative errors (those errors resulting from clerical operations, sample or specimen confusion, or documentation deficiencies that did not result in an analytical error);
- Systematic errors (those errors determined to be due to equipment, material, techniques, or environmental influences); and
- Analytical/interpretive errors (those errors resulting in a significant discrepancy, such as an erroneous identification or a missed

identification, determined to be the result of an analytical or interpretive deficiency).

The FBI Laboratory categorized the Mayfield fingerprint misidentification as an analytical/interpretive error, the most serious category of error. For this type of error, the Manual requires that the error be “discussed and/or documented with the Examiner to determine how and why the wrong conclusion was reached.” The Manual further states that four actions may be taken with respect to the responsible examiner: (1) immediate removal from conducting casework, (2) complete technical review of the examiner’s past cases, (3) proficiency testing, and (4) training. The Manual further requires that the Unit Chief review the examiner’s future casework until satisfied that the discrepancy does not reoccur. According to the FBI Laboratory, corrective action is intended to remediate or rehabilitate the examiner and to improve a deficiency, and should not be considered punitive. The LPU Quality Assurance Manual states that disciplinary action can be taken in addition to the actions listed above if deemed necessary.

The corrective measures taken by the FBI Laboratory with respect to the three examiners involved in the misidentification of LFP 17 (Green, Massey, and Wieners) are described and evaluated below.

Providing Written Explanation for the Error. On May 27, 2004, all three examiners provided a written acknowledgement of the error and an explanation of why the error occurred. Green’s written explanation stated:

On May 19, 2004, I became aware of the Spanish National Police report. After reviewing my original analysis of Latent 17, I determined that I was in error in concluding that it was of value for comparison. I should have made an initial decision that Latent 17 is not of value for comparison purposes, not only because of the quality of the image, but that there was no background information about the image to aide [sic] in my findings of explainable dissimilarities.

Wieners’ written explanation stated: “After careful analysis, I determined that latent fingerprint #17 should have been declared of no value for identification purposes. I believe the cause of my error was an insufficient analysis of latent fingerprint #17.”

Massey’s written explanation stated:

My original decision was based on the poor quality of the latent print and the appearance of it having several lines of separations. This could have been caused by the item that the latent print was

on or the possibility of several touches of a finger or fingers. Based on the lack of quantity and quality of the characteristics in any of the areas in the latent print I determined that this latent print was of no value for identification.

The OIG found these written explanations to be insufficiently specific or detailed to provide any useful information regarding how or why the error occurred, and in some cases they were misleading. Green's reference to the "quality of the image" was inappropriate because as of May 27, the day he made the statement, neither he nor anyone else in the FBI Laboratory had ever seen a better image than the one that had been used to identify Mayfield. As discussed in Chapter Four, Section II.D.2, the digital image used to identify Mayfield satisfied all applicable FBI Laboratory standards for resolution and was of sufficient quality for comparison. Moreover, Green's reference to the "absence of background information" did not explain what information was missing and how it would have made a difference. As previously noted, we found that the FBI's lack of access to the evidence on which the fingerprint was found did not cause the error.

Wieners' statement that the error was caused by "insufficient analysis" was not misleading, but it provided too little information regarding the causes of the error to be helpful in preventing future errors of the same type. As detailed in Chapter Four, Section II.A.2, the OIG found that the misidentification was caused in part by bias from the examiner's review of Mayfield's known fingerprint, which might have been prevented had the examiner been required to complete his analysis of the latent fingerprint and identify all clearly discernible features before conducting a detailed comparison. However, Wieners did not provide even that degree of elaboration to his explanation, merely stating that the analysis was "insufficient," without detailing where it was deficient and how this led to an erroneous conclusion.

Massey's memorandum was unsigned and could have merely been a draft. As written in the version provided to the OIG, the statement made no sense. The memorandum stated Massey based his original decision (which was to verify the identification) on the "poor quality of the latent print" and that he determined that the latent print was of no value for identification. Massey obviously considered the print to be "of value," because he verified the identification. Moreover, as noted above, we found that the quality of the latent print was not a cause of the misidentification.

Further, the statement by all three examiners that they erred in declaring the latent print to be "of value for identification" is unsatisfactory for all of the reasons set forth in detail in Chapter Four, Sections II.D.3 and 4.

These statements cannot be meaningfully reconciled with the LPU's subsequent identification of LFP 17 as the fingerprint of Daoud.

The OIG believes that the deficiency in the examiners' written statements may have been related to the haste in which they were prepared. All of them were dated May 27, just days after the error was discovered and the original identification had been withdrawn. However, this does not excuse the misleading, inaccurate, and incomplete explanations that were provided.

Recommendation 18 We recommend that the Laboratory require more detailed written explanations in the future for any analytical/interpretive errors, triggering the documentation requirement in the LPU Quality Assurance Manual. Further, the OIG questions the FBI's practice of assigning primary responsibility for documenting the causes of the error to the examiners who committed the error, because these examiners are likely to lack objectivity. As it was implemented in this case, the documentation requirement in the FBI LPU Quality Assurance Manual was an empty exercise. The Quality Assurance Manual requires that the error be "discussed and/or documented *with* the examiner," not necessarily *by* the examiner. We believe that examiners other than those who committed the error should be responsible for determining the causes and that their findings should be presented orally or in writing to the examiners who committed the error.

Removal from Casework. All three examiners were suspended from performing casework on May 28, 2004, shortly after the error was discovered. Green and Wieners were cleared to return to casework on August 13, 2004, after completion of the other aspects of the corrective action plan. Both are in supervisory positions. Wieners is a Unit Chief and Green is the supervisor of the LPU's Technology Development and Support Group. According to the Chief of the FBI Laboratory's Quality Assurance and Training Unit, although Green and Wieners have been cleared to return to performing casework, neither has performed any casework since being suspended.

Massey is no longer on contract with the FBI. He worked for the FBI Laboratory as a contractor from June 23, 2003, through June 10, 2004. According to the Contracting Agent's Technical Representative for the contract, Massey's contract was not renewed because of budgetary reasons, not because of his role in the Mayfield fingerprint error. A modification to his contract dated February 3, 2004, specified that at the conclusion of the contract period services would no longer be required for the remaining contract years.

Technical Review of the Examiners' Past Cases. The LPU's Standards and Practices Group conducted technical reviews of 10 of Green's prior cases,

10 of Wieners' prior cases, and 29 of Massey's prior cases.¹⁴⁵ The purpose of the review was to determine whether, in those prior cases, the fingerprint examinations were properly conducted, examination notes and results were properly reviewed, and proper conclusions were rendered. Specifically, the reviewers performed an ACE-V check of the fingerprint comparisons done by the examiner and reviewed all of the associated documentation.

They completed their technical review on July 16, 2004. The LPU reviewers found no errors in Wieners' and Massey's selected cases. However, the reviewers found 1 error in 1 of Green's 10 selected cases. The LPU's technical review found that in a bank fraud case Green handled in July 2000, Green had correctly identified prints on financial records connected with two different aliases of the subject of the investigation. However, he had failed to correctly identify fingerprints on financial records connected with one of the subject's other six aliases. The technical review determined that Green's processing and analysis of the latent fingerprint was satisfactory, but found errors in Green's comparison and evaluation of the latent and known fingerprints. The impact of the error was determined to be minor because the subject was connected to the crime by the other fingerprints. This error differed from the Mayfield error in that it was a false negative (missed identification), not a false positive (misidentification).

Proficiency Testing. A proficiency test obtained from an independent testing service, Collaborative Testing Services, was administered to the three examiners in June and July 2004. According to the chief of the FBI Laboratory's Quality Assurance and Training Unit, all three examiners passed the proficiency test with no errors.

Training Exercise. The 3 examiners were provided with a training exercise developed internally, which consisted of a simulated case requiring 1,068 fingerprint comparisons. The examiners completed the training exercises in June 2004. All three examiners successfully performed the exercise.

Disciplinary Action. According to the FBI Laboratory Section Chief in charge of the LPU, FBI laboratory management has concluded that no disciplinary action beyond the corrective action described above is required

¹⁴⁵ For Green and Wieners, the prior cases selected for review included all of the cases in which these examiners had made identifications in the past 5 years, plus a random sampling of cases involving non-identifications, to assure that at least 10 cases were reviewed for each examiner. Because, as supervisors, Green and Wieners performed a limited amount of casework, the reviewers had to go back five years to find a sufficient number of identifications to review. For Massey, the prior cases selected for review included all of the 29 cases that Massey worked on since his hire as a contractor in June 2003.

against Green or Wieners. According to LPU management, the corrective action process and the quality assurance process, both of which are part of the accreditation process, constituted sufficient action against Green and Wieners with respect to the error. Management's review of the error determined that the misidentification was a mistake and not intentional or due to negligence, and therefore disciplinary action was not required. Massey was a contractor and therefore disciplinary action was not possible.

Reaccreditation of the FBI Laboratory by ASCLD/LAB. American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) requires its accredited laboratories to have written procedures in place for reviewing instances where there are indications of a significant technical problem or where there are concerns regarding the work of an examiner. The LPU corrective action procedures described are intended to comply with this requirement. At the time of the Mayfield fingerprint misidentification, the FBI Laboratory's accreditation was in the process of being renewed. When the fingerprint misidentification was identified, ASCLD/LAB initiated an interim inspection focusing exclusively on the Mayfield fingerprint misidentification and on the corrective actions taken by the FBI in response to the error. On November 23, 2004, the ASCLD/LAB Board of Directors informed the FBI Laboratory that "the Board is satisfied that appropriate corrective actions have been taken with the individuals involved in this matter and that appropriate actions have been taken with regard to the prior work of these individuals." ASCLD/LAB subsequently renewed the FBI Laboratory's accreditation.

The OIG's Evaluation/Analysis of the FBI's Corrective Action. Upon discovery of the error, the FBI quickly moved to implement its corrective action procedures. In some respects, the OIG found that the FBI's corrective action was both comprehensive and timely. For example, the Laboratory quickly implemented a timely review of the examiners' past cases and conducted retraining and proficiency testing.

However, as noted above, the OIG found that the written explanations for the error prepared by the examiners were conclusory and unenlightening as to the causes of the error. We believe that the FBI should have required a more comprehensive explanation of the causes of the error and should have considered using examiners other than those involved in the misidentification to determine and document the causes of the error.

The OIG also reviewed the Laboratory's determination that no discipline of the examiners was required beyond the corrective actions described in this chapter. An assessment of the FBI Laboratory's decision not to impose disciplinary action on Green or Wieners requires a specific review of the performance of these individuals with respect to the examination of LFP 17. As detailed above, we determined that the misidentification of LFP 17 resulted

initially from the unusual similarity between some friction ridge details on Mayfield's finger and some details on Daoud's finger that were imperfectly reproduced in the latent fingerprint, but the examiners made several significant mistakes and failed to apply principles of latent fingerprint identification that could have prevented the error. However, we did not find evidence that any examiner in the Laboratory committed intentional misconduct.

Moreover, although the methodological errors described in Chapter Four represent, in part, performance deficiencies attributable to Green, Massey and Wieners, we did not find any conduct by these examiners that specifically violated explicit FBI Laboratory SOPs or policies. As noted above, some important principles of latent fingerprint examination that are described in the relevant literature are not spelled out with any specificity in the SOPs or related SWGFAST Standards. We cannot state with certainty that other examiners in the FBI Laboratory, acting in compliance with existing Laboratory policies and procedures, would not have made the same error. Imposing discipline on Green and Wieners would, to some extent, unfairly single them out for actions that we believe were consistent with the Laboratory's prevailing practices at the time.

However, as discussed above, we believe that the examiners made significant errors that were partly the cause of the identification. The FBI Laboratory told the OIG that it assessed the performance of Green and Wieners in late August and early September 2004 and issued a rating of "Does Not Meet Expectations" for both employees based on the misidentification of LFP 17. We address the individual performances of the three FBI examiners involved in the misidentification of LFP 17 in turn below.

Green. As the original examiner, Green was responsible for conducting the IAFIS search and the ACE-V examination of LFP 17. We found that Green's IAFIS search of LFP 17 was competent. Indeed, as noted above, Green's initial interpretation of ambiguous features in the fingerprint for the purpose of encoding the print for an IAFIS search later proved to be highly accurate when the known prints of Daoud were discovered. Green's encoding was designed to induce IAFIS to locate the closest possible matches to LFP 17 from over 470 million prints within the FBI's databases. The fact that IAFIS found a confusing similar non-match (Mayfield) actually reflected a successful effort at encoding the print.

Green was responsible, however, for conducting the detailed comparison of LFP 17 to Mayfield's prints, and he was the examiner who initially committed the methodological errors described in Chapter Four, such as applying circular reasoning, accepting explanations for differences in appearance with insufficient support, and relying on ambiguous Level 3 details. These errors did not specifically violate FBI procedures and did not represent intentional

misconduct. The FBI conducted a performance assessment of Green, as described above, and we agree that no further discipline of Green is warranted in this case.

We were troubled by the fact that Green not only misidentified Mayfield's fingerprint, but also was subsequently found to have made an error on a previous case. Although the error relating to the prior case was not significant on its own, its occurrence in combination with the Mayfield misidentification should raise a red flag for Laboratory management. As noted above, the technical review covered all of Green's casework over the past five years. Green made identifications in seven cases during that period. This means that, including the Mayfield case, Green made errors in two of eight cases in which he made identifications. Accordingly, we believe that the FBI should consider whether Green should perform any future casework. We note that under Green's current assignment within the LPU's reorganized structure he is no longer responsible for casework. He now serves in the Technology Development and Support Group, which is responsible for managing the IAFIS program, including conducting research of IAFIS technology and other automated programs, providing training of IAFIS and other programs, and providing operational support to the LPU. Given Green's expertise in using IAFIS, which was demonstrated in this case, we believe that his current assignment is not inappropriate.

Massey. As verifying examiner in this case, Massey was required to conduct a complete and independent ACE-V examination. Because there was no requirement that the steps of the examination be documented, and Massey declined to be interviewed, we could not specifically determine whether Massey fulfilled this requirement. The available evidence, consisting of the statements of other examiners in the FBI Laboratory, indicates that Massey was a meticulous examiner and there is no evidence that he "rubber stamped" Green's conclusion identifying Mayfield as the source of LFP 17. We therefore believe that it is likely that Massey committed similar methodological errors to those committed by Green and have no reason to believe the error resulted from intentional misconduct. In any event, Massey retired as an FBI employee and his status as a contract examiner was not renewed, so the issue of disciplining Massey is moot.

Wieners. There was no FBI Laboratory SOP or other policy that required Wieners, as Unit Chief, to verify the identification of LFP 17. However, Wieners told the OIG that he reviewed the identification at the time it was made and discussed it with Green and Massey. In addition, Wieners reviewed the identification again in preparation for the April 22 meeting with the SNP. He was emphatic in accepting responsibility for the misidentification.

We found that Wieners did not, and was not required to, conduct a complete and independent ACE-V examination of LFP 17. Therefore, his role in the methodological errors that contributed to the misidentification of LFP 17 was lesser than those of Green and Massey. Nevertheless, in reviewing the identification with Green and Massey, Wieners had an opportunity to determine, among other things, whether there was adequate support for the explanations that Green and Massey adopted for the differences in appearance between LFP 17 and the Mayfield print. Indeed, Wieners told us that one of those differences gave him “heartburn from the get-go.” We found that, like Green and probably Massey, Wieners did not apply a sufficiently stringent standard of certainty for these explanations. Wieners was also aware of the use of Level 3 detail in making the identification (having used those details to explain the identification to the SNP), and therefore made the same errors that Green did in relying on such details in a print of dubious clarity. Wieners’ errors, like Green’s, did not specifically violate FBI procedures and did not represent intentional misconduct. The FBI conducted a performance assessment of Wieners, as described above, and we agree that no further discipline of Wieners is warranted in this case. We also note that Wieners played a commendable role in recognizing the error after the SNP identified Daoud and in alerting the United States Attorney’s Office of his concerns with the original identification quickly thereafter.

V. Conclusions Regarding the FBI Laboratory’s Responses

The OIG found that the FBI Laboratory has taken many significant steps in response to the discovery of the misidentification of LFP 17. We concur with many of the reforms that the Laboratory intends to implement, particularly with respect to the development of more objective criteria for declaring identifications, revision of the SOPs to provide greater detail and more specific procedures, and establishment of meaningful minimum documentation requirements for identifications. In addition, we recommend that the FBI Laboratory consider the following additional steps.

1. Research The FBI Laboratory should consider shifting at least some of the emphasis on planned research of Level 3 detail from the issue of permanence to the issue of reproducibility, and defining the circumstances under which Level 3 detail should be utilized.

2. Explanations for Differences The Laboratory’s SOPs should be revised to explicitly require that the examiner must achieve a degree of certainty with respect to each “explanation for differences” that is consistent with, and equivalent to, the stringent standard of certainty required for the conclusion of identification.

3. Use of Level 3 Detail The SOPs should be revised to define the circumstances under which the clarity of a latent fingerprint is sufficient to support the utilization of Level 3 details to effect the individualization. The SOPs should also require that the examiner consult all versions of the available known prints of the subject to determine whether any Level 3 details utilized to support the identification are reliably and repeatably reproduced. The SOPs should require that the examiner apply “fair reasoning” in utilizing Level 3 details that support the identification but explaining those which do not as mere distortions, so as to avoid “cherry-picking” of selected supporting Level 3 details.

4. Disagreements by other Laboratories The SOPs or other Laboratory policies should be revised to address the circumstances under which a different forensic laboratory disagrees with an identification decision by the FBI Laboratory to ensure that the reasons for the disagreement are fully understood before the FBI Laboratory ratifies its initial conclusion. In such cases the Laboratory should assign new examiners to conduct a complete ACE-V examination.

5. Use of “Inconclusive” Conclusion The Laboratory should revise the LPU SOPs to clarify that an “inconclusive” conclusion is available to examiners in cases in which the latent fingerprint is deemed “suitable for comparison” but the examiner is unable to achieve adequate certainty, either as to the quantity and quality of detail in agreement or as to the sufficiency of his explanations for differences.

6. Documentation of Analysis Phase The Laboratory should require documentation of the features and “red flags” observed during the analysis phase of the ACE-V process, including recording the location and type (if known) of the features perceived at that phase. Documentation of the analysis phase will help prevent “circular reasoning” of the type that contributed to the misidentification of LFP 17.

7. Blind Verifications The Laboratory should consider an alternative process for blind verifications to the one recommended by the Latent Review Teams. We believe that a better solution would be to submit decoy non-identifications (latent fingerprints that do not match the exemplar) in a small percentage of all verifications, so that for any comparison the verifier is aware of the possibility that no identification has previously been made.

8. Blind Verifications To assure independence and objectivity in the verification process, the examiner who made the initial identification should not be involved in selecting the decoy prints or challenging non-identifications for use in the blind verification package.

9. Second Verifications The Laboratory should consider requiring a second independent verification for those cases in which there is only one latent print identified to a subject and the subject was identified as the result of an IAFIS search.

10. Refused Verifications The Laboratory should consider an alternative to treating refused verifications as potential errors requiring dispute resolution. Instead, the LPU could respond to such rare cases by requiring a full examination and verification by different examiners not previously involved with that identification.

11. Reexamination of Prior Identifications The Laboratory should consider a broader category of prior IAFIS identifications for reexamination. Specifically, we recommend that the Laboratory consider a review of prior cases in which the identification of a criminal suspect was made on the basis of only one latent fingerprint searched through IAFIS.

12. Corrective Action Procedures The Laboratory should revise its corrective action procedures to require more comprehensive analysis and meaningful documentation of the causes of any errors. The Laboratory should consider using examiners other than those involved in the misidentification to determine and document the causes of the error.

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