

## **CHAPTER SEVEN CONCLUSION**

The FBI Laboratory's misidentification of Brandon Mayfield as the source of Latent Fingerprint 17 (LFP 17) found on a bag with detonators connected to the Madrid training bombings triggered an intensive investigation that ultimately led to Mayfield's arrest and incarceration for two weeks on a material witness warrant. The investigation included covert electronic surveillance and searches of his home and office pursuant to FISA, and searches of his home and office pursuant to criminal search warrants after his arrest. The FBI withdrew its identification after the Spanish National Police (SNP) identified the fingerprint on the Madrid bag as belonging to an Algerian national.

The misidentification of LFP 17 was a watershed event for the FBI Laboratory, which has described latent fingerprint identification as the "gold standard for forensic science." Many latent fingerprint examiners have previously claimed absolute certainty for their identifications and a zero error rate for their discipline.

Because of the significance of the FBI's misidentification and the consequences to Mayfield, the OIG conducted an extensive investigation, assisted by fingerprint experts, which examined the causes of the Laboratory's error, assessed the actions taken by the Laboratory to respond to the misidentification and improve its fingerprint examinations, and recommended additional changes to Laboratory procedures. We also closely examined the conduct of the FBI's field investigation of Mayfield.

Based on our investigation, we concluded that the three FBI examiners who misidentified Mayfield's print were confused by the fact that the fingerprint on the Madrid bag (LFP 17) contained as many as 10 points that corresponded to details in Mayfield's known fingerprints in relative location, orientation, and intervening ridge count. This degree of similarity is extraordinarily rare and confused three FBI fingerprint examiners as well as a fourth outside, court-appointed examiner.

However, we also found that the FBI examiners committed errors in the examination procedure, and that they could have prevented the misidentification through a more rigorous application of several accepted principles of latent fingerprint identification. Among other things, the examiners applied circular reasoning, allowing details visible in Mayfield's known prints to suggest features in the murky or ambiguous details of LFP 17 that were not really there. The examiners also relied on selected Level 3 details to support the identification under circumstances that should have called into question the validity of these purported similarities. They also accepted a

“double touch” explanation for an obvious difference in appearance between LFP 17 and Mayfield’s known print that had insufficient evidentiary support and assumed a remarkable set of coincidences in order to make the identification.

In addition, the Laboratory missed an opportunity to correct its error when it learned in mid-April 2004, that the SNP Laboratory had declared that its comparison of Mayfield’s prints to LFP 17 was “negative.” Instead, the FBI examiners declared that they were “absolutely confident” in their identification even before determining the basis of the SNP’s disagreement. We concluded that the FBI Laboratory’s overconfidence in its examiners prevented it from taking the SNP’s results as seriously as it should have.

We also assessed whether Mayfield’s religion improperly influenced the FBI Laboratory’s actions. We determined that Mayfield’s religion and background were unknown to the examiners when they made the initial fingerprint identification of Mayfield. After the initial identification, information about Mayfield’s representation of a convicted terrorist, his contacts with other suspected Muslim extremists, and his religion became known to the examiners. The OIG concluded that Mayfield’s religion was not the sole or primary cause of the FBI’s failure to question the original misidentification and catch its error. The primary factors were the similarity of the prints and the Laboratory’s overconfidence in the superiority of its examiners. However, we believe that Mayfield’s representation of a convicted terrorist and other facts developed during the field investigation, including his Muslim religion, also likely contributed to the examiners’ failure to sufficiently reconsider the identification after legitimate questions about it were raised.

We also found that some of the explanations offered by the FBI Laboratory after the misidentification was discovered were not supported by the evidence. For example, contrary to the FBI’s initial claims, the error was not caused by the use of a digital image of LFP 17, and we do not believe that the FBI Laboratory necessarily would have avoided the error had it obtained access to the original evidence.

In response to the misidentification, the FBI Laboratory has taken various actions to determine if other similar errors had occurred in other cases, and to develop new criteria and procedures for latent fingerprint identification. Among other things, the FBI Laboratory has undertaken an ambitious research project to develop more objective and accurate criteria for declaring fingerprint identifications. The Laboratory has also announced that it will: (1) develop new and more detailed Standard Operating Procedures specifying in detail each step of the examination process, (2) adopt extensive documentation requirements to ensure thorough and meticulous comparisons with reproducible results, and (3) implement blind verification procedures with

decoy non-matches to promote complete and independent verifications. These reforms will require dramatic changes in the way latent fingerprint identifications are performed in the FBI Laboratory and likely in other forensic laboratories as well. We believe that these actions will improve the quality of latent fingerprint examinations and help prevent future misidentifications.

However, we found that some of the changes adopted by the Laboratory were not fully responsive to the issues raised by the Mayfield misidentification, and that additional or more specific modifications to Laboratory practices should be adopted. In this report, we offer a series of recommendations for procedural changes to help address the problems we found in this case. They include recommendations for: (1) developing criteria for the use of Level 3 details to support identifications, (2) clarifying the “one discrepancy rule” to assure that it is applied in a manner consistent with the level of certainty claimed for latent fingerprint identifications, (3) requiring documentation of features observed in the latent fingerprint *before* the comparison phase to help prevent circular reasoning, (4) adopting alternate procedures for blind verifications, (5) reviewing prior cases in which the identification of a criminal suspect was made on the basis of only one latent fingerprint searched through the FBI’s Integrated Automated Fingerprint Identification System (IAFIS), and (6) requiring more meaningful and independent documentation of the causes of errors as part of the Laboratory’s corrective action procedures.

The OIG also reviewed the conduct of the FBI in the investigation and arrest of Mayfield, after the FBI Laboratory had declared that his fingerprint was on the Madrid evidence. Among other things, we considered the impact of the Patriot Act on the Mayfield investigation. We found that the Patriot Act amendments to FISA did not affect either the government’s decision to seek FISA search and surveillance authority in the Mayfield case, or the scope of information the government collected about Mayfield pursuant to FISA. We also found that, contrary to public speculation after Mayfield’s arrest, the FBI did not make use of the provisions of the Patriot Act relating to delayed notification searches ██████████ in the Mayfield case. Moreover, the evidence indicated that, even prior to the Patriot Act, the FBI likely would have sought and been able to obtain FISA authorization for the searches and surveillance of Mayfield that it conducted.

We did not find any evidence that the FBI misused any of the provisions of the Patriot Act in conducting its investigation of Mayfield. The Patriot Act did permit a wider variety of law enforcement agents and intelligence agents to share information about Mayfield than would have been permitted prior to the Patriot Act. This difference amplified the consequences of the FBI’s fingerprint misidentification by permitting information obtained in the investigation of Mayfield to be disseminated more broadly than would have been permitted prior to the Patriot Act amendments.

We also investigated whether the FBI's field investigation and arrest of Mayfield were improperly influenced by knowledge of his religion. Some government witnesses acknowledged that Mayfield's religion was a factor in the investigation. However, we concluded that investigation and arrest were driven primarily by the erroneous fingerprint identification, and that the same investigatory tools would have been employed regardless of Mayfield's religion.

In our investigation, we reviewed the affidavits submitted by the FBI in support of the application for a material witness warrant and criminal search warrants and found problems with them. The affidavits contained several inaccuracies that reflected regrettable lack of attention to detail. In addition, we found the wording of the affidavits to be troubling in several respects. In particular, the affidavits provided an ambiguous description of the April 21 meeting between the FBI and the SNP, which apparently led the judge to erroneously conclude that the SNP had agreed with the FBI's identification. In fact, the SNP had only agreed to conduct a reexamination of LFP 17. In addition, the material witness warrant affidavit contained an unfounded inference concerning the likelihood of false travel documents regard Mayfield.

Finally, we examined the conditions under which Mayfield was confined at the Multnomah County Detention Center (MCDC). The material witness statute provides that the same detention procedures applicable to criminal defendants are also applicable to material witnesses under arrest. Mayfield's detention did not violate these procedures. We also found no evidence that Mayfield was mistreated during his detention. He was treated in accordance with the normal practices in this facility and was segregated from other prisoners for his own protection to a greater degree than an ordinary criminal defendant might have been. However, we found that the MCDC failed to communicate important information about Mayfield to appropriate personnel, resulting in unnecessary confrontations with Mayfield by a corrections officer and the inadvertent public disclosure of the alias assigned to him to protect grand jury secrecy.

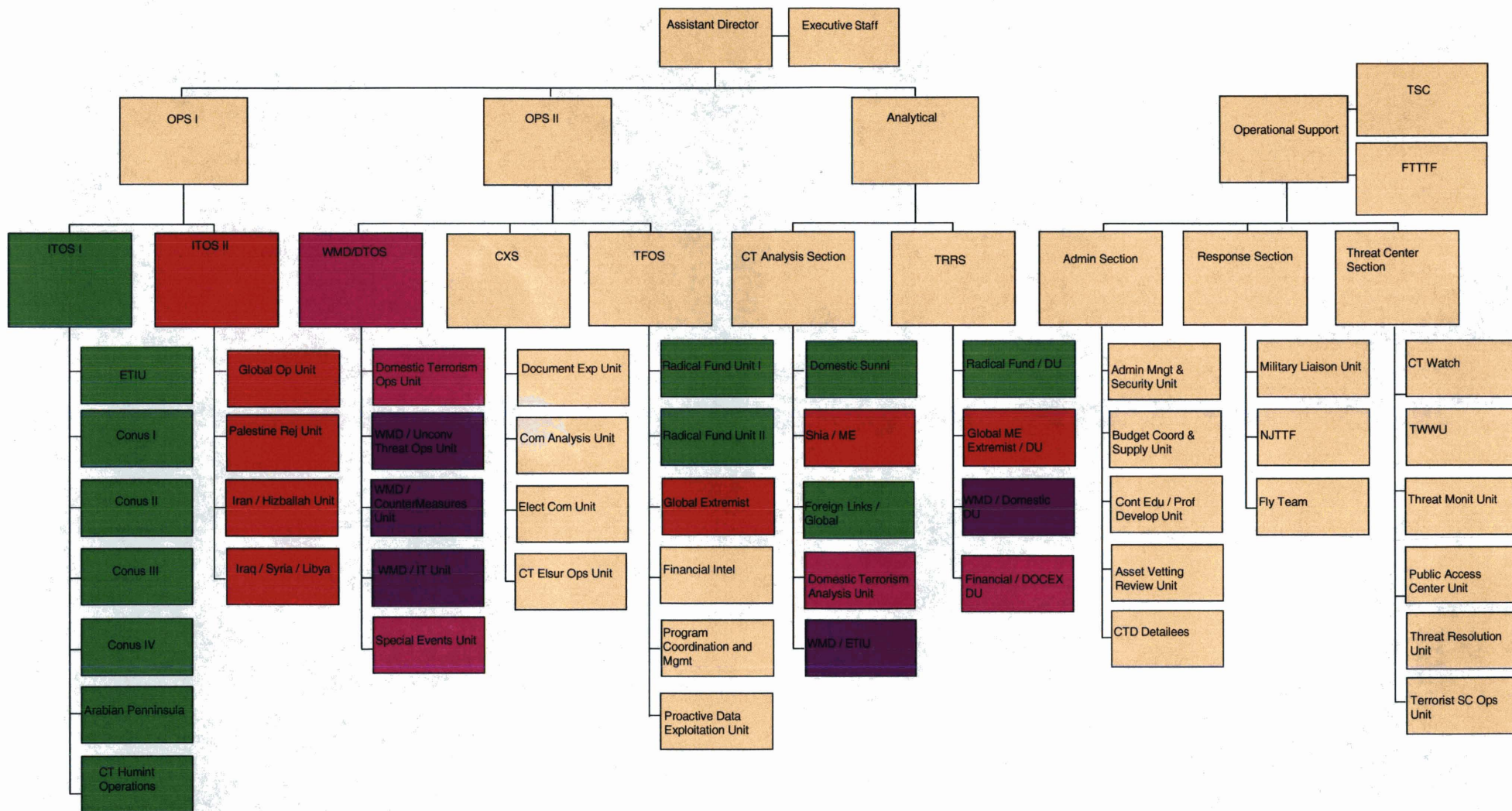
As a result of our investigation, we provided a series of recommendations to the FBI to address problems we found in the Mayfield case. While we did not find any intentional misconduct by FBI employees, either in the Laboratory or by those conducting the FBI field investigation, we did find performance issues by various FBI employees and we recommended that the FBI assess these deficiencies. More significantly, we found a series of systemic issues, particularly in the FBI Laboratory, which helped cause the errors in the Mayfield case. While the FBI Laboratory has taken significant steps to address these issues, we made a series of recommendations to the FBI to address additional issues raised by the Mayfield misidentification. We believe our

recommendations, if fully adopted, can help prevent similar errors in the future.

# APPENDICIES

A

# COUNTERTERRORISM DIVISION

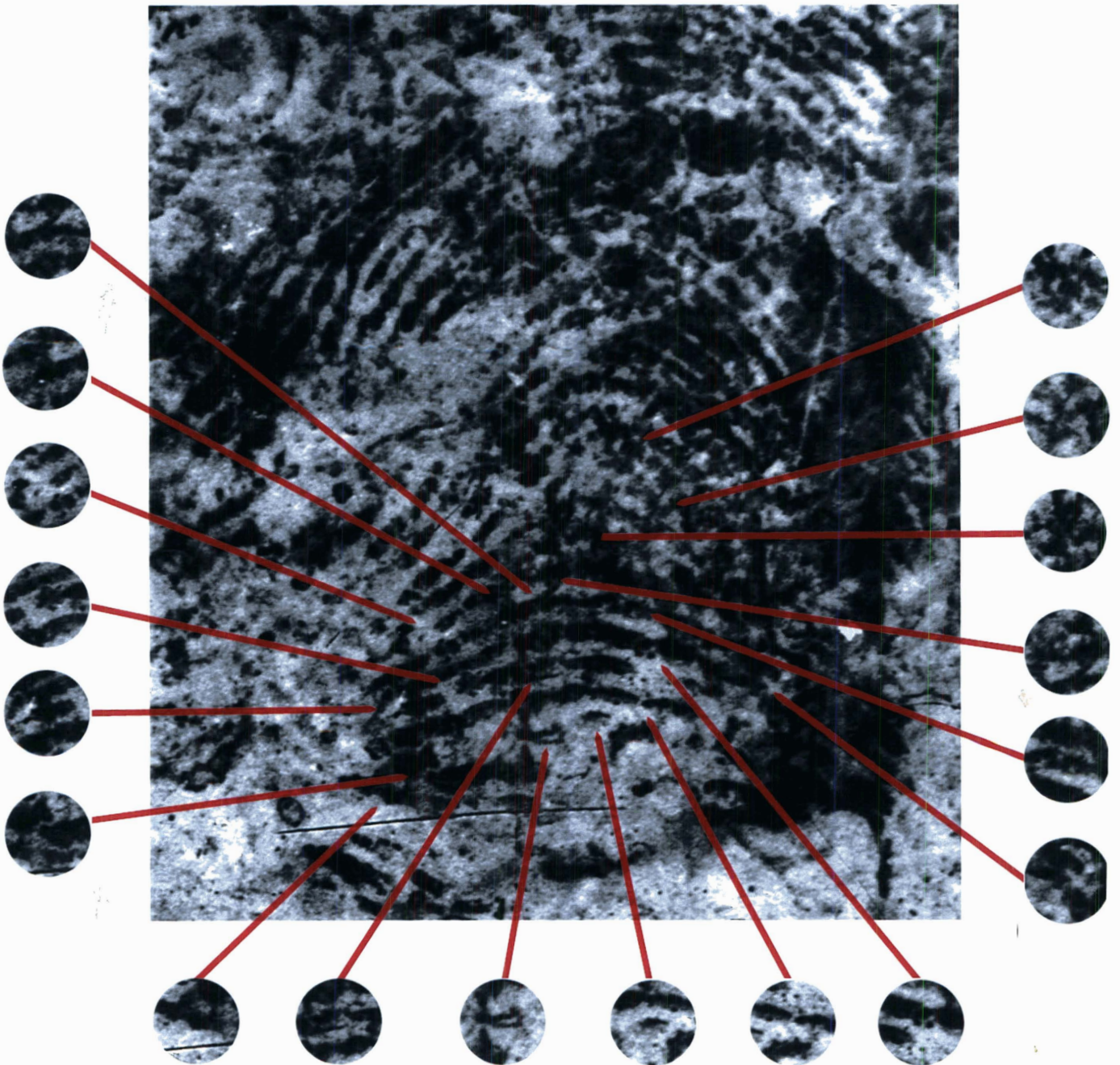


Stand Alone
  RFU Team
  Domestic Team
  Global Extremist
  WMD

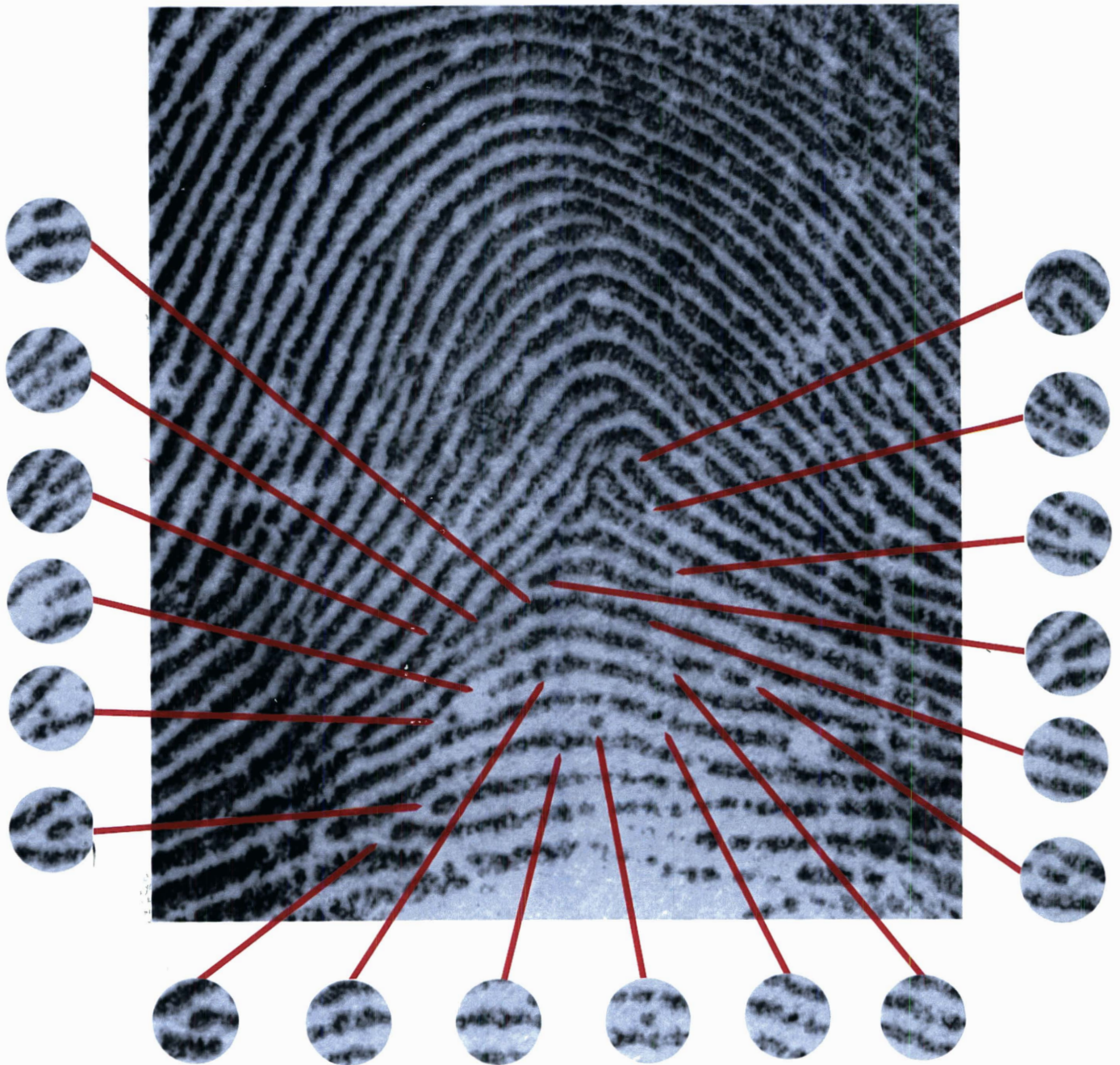


B

# LATENT PRINT



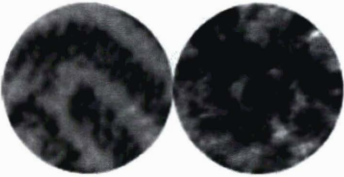
# KNOWN PRINT



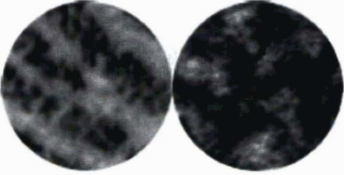
## IDENTIFICATION OF LATENT 17

The identification of Mayfield was effected through an Automated Fingerprint Identification System (AFIS) search of the Federal Bureau of Investigation (FBI) criminal files. The following describes the characteristics used to effect the identification, this includes levels 1 (ridge flow), 2 (dots, ending ridges, and dividing ridges), and 3 (ridge edges, ridge breaks, pores, and incipient ridge events):

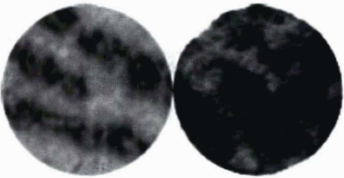
Known      Latent



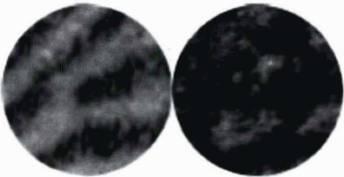
- A. In the middle of the latent image is the inner-most recurving ridge. Inside the recurving ridge is a spike or ending ridge. On the recurving ridge are two appendages, a dividing ridge at the top of the recurve and a dividing ridge on the left shoulder of the recurve.



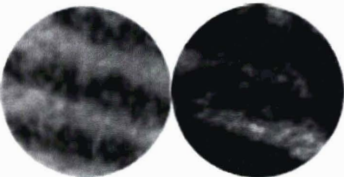
- B. From pullout A, following the inner dividing ridge from the left shoulder, there is an ending ridge.



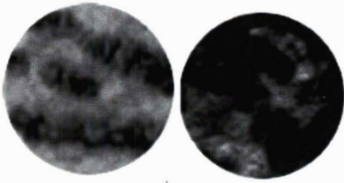
- C. From the ending ridge in pullout B, the second ridge down, when followed to the right, comes to an end.



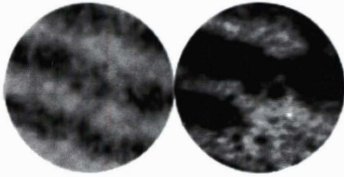
- D. The ridge directly below the ending ridge in pullout C, when followed to the left, comes to an end.



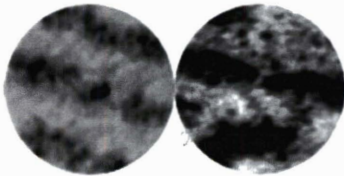
- E. The ridge directly below the ending ridge in pullout D, when followed to the right, bears three level 3 details. These are pores present in both the latent and known images.



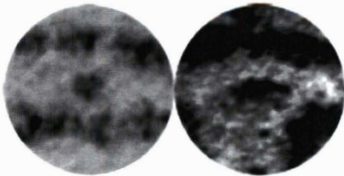
F. The ridge directly below the pores in pullout E, when followed to the right, comes to an end.



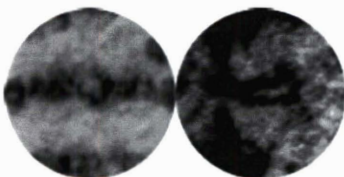
G. From the ending ridge in pullout F, following that same ridge back to the left, there are two level 3 details. These two incipient dots are present in both the latent and known images



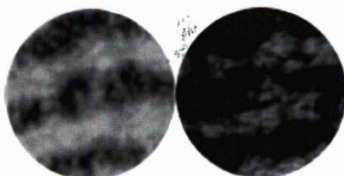
H. The second ridge directly below the incipient dots in pullout G has level 3 detail. A small break and angling of the ridge that are present in both the latent and known images.



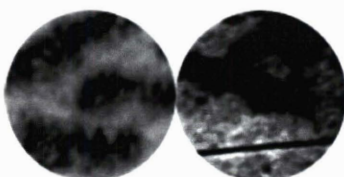
I. Directly left of the small break and angling of the ridge in pullout H, is a dot.



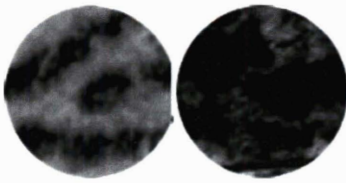
J. On the ridge below the dot in pullout I, when followed to the left is a single level 3 detail. This pore is present in both the latent and known images.



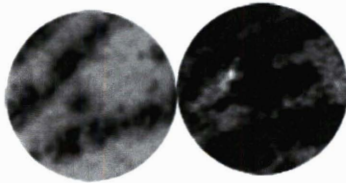
K. Two ridges above the pore in pullout J and slightly to the left, is a single level 3 detail. This elongated pore is present in both the latent and known images.



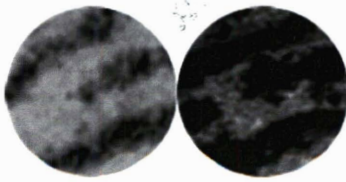
L. On the fourth ridge down from pullout K, following its path to the left, there is an ending ridge that ends pointing to the left. Note: the ending ridge's distinctive shape.



- M. From pullout L, the ridge to the right and above the ending ridge in pullout M also ends pointing to the left.

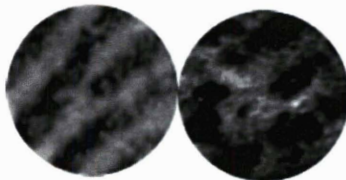


- N. Directly above the ending ridge in pullout M, with two ridges in between, there is a dot/short ridge.

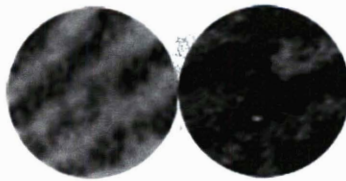


- O. Directly right of the dot/short ridge in pullout N, there is an ending ridge.

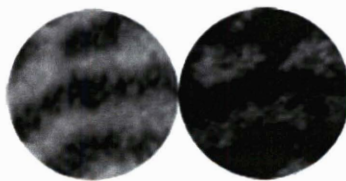
Note: when reviewing the points in pullouts N and O they appear in the charted known print as a dot and an ending ridge. However, in the other impression of the known print, the ridge appears to be a continuing ridge with small breaks. This is consistent with the appearance of these characteristics in the latent image.



- P. From pullout O, the third ridge above and slightly left ends pointing downward and to the left.



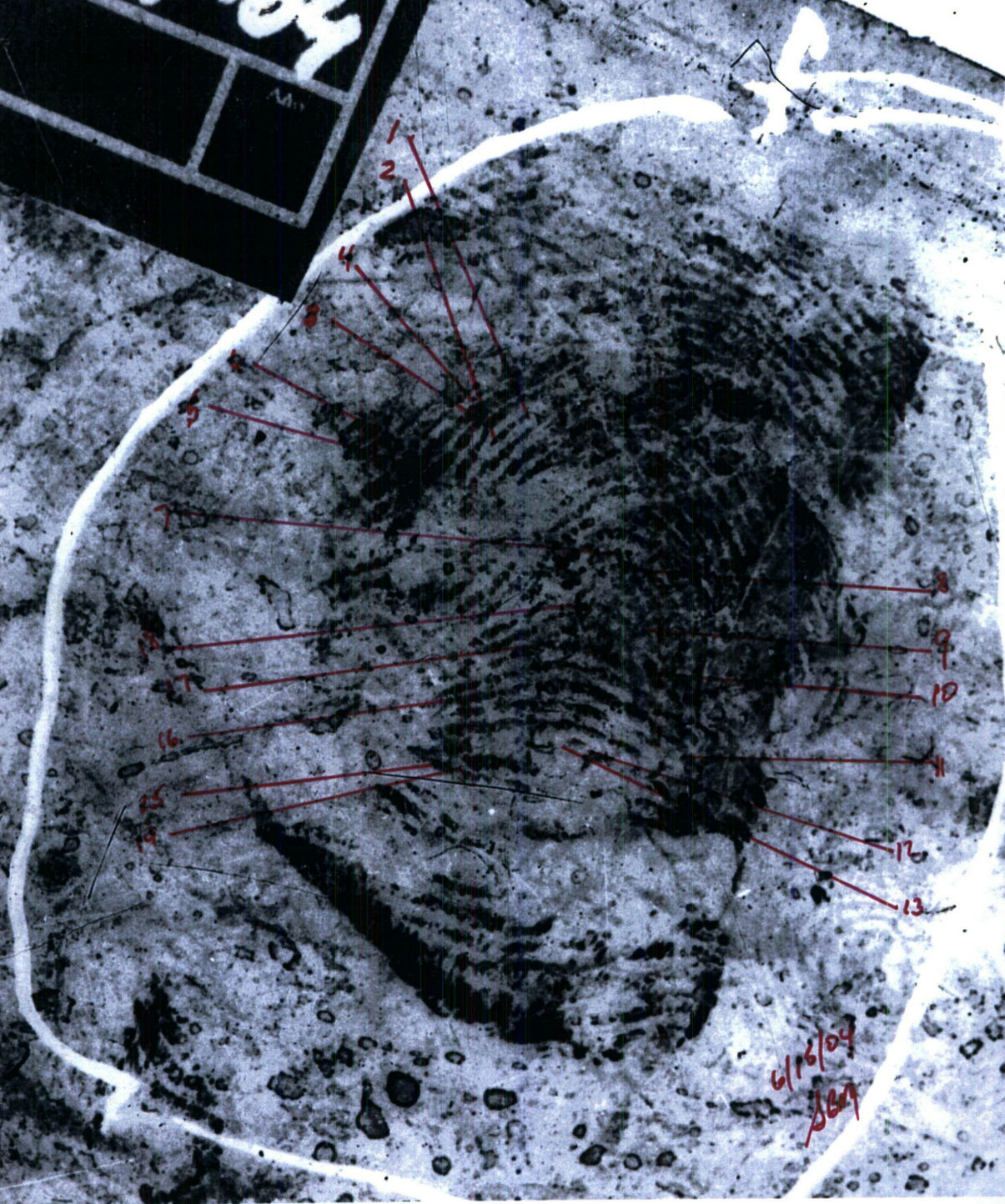
- Q. When the ridge below the ending ridge in pullout P is followed to the right, there is a single level 3 detail. This eruption on the upper edge of the ridge is present in both the latent and known images.



- R. Flowing to the right on the same ridge in pullout Q, there is a single level 3 detail. This eruption on the under side of the ridge is present in both the latent and known images.

C

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52-17-04  
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6/16/04  
JBT



FIGURE



6/15/00  
AM

D



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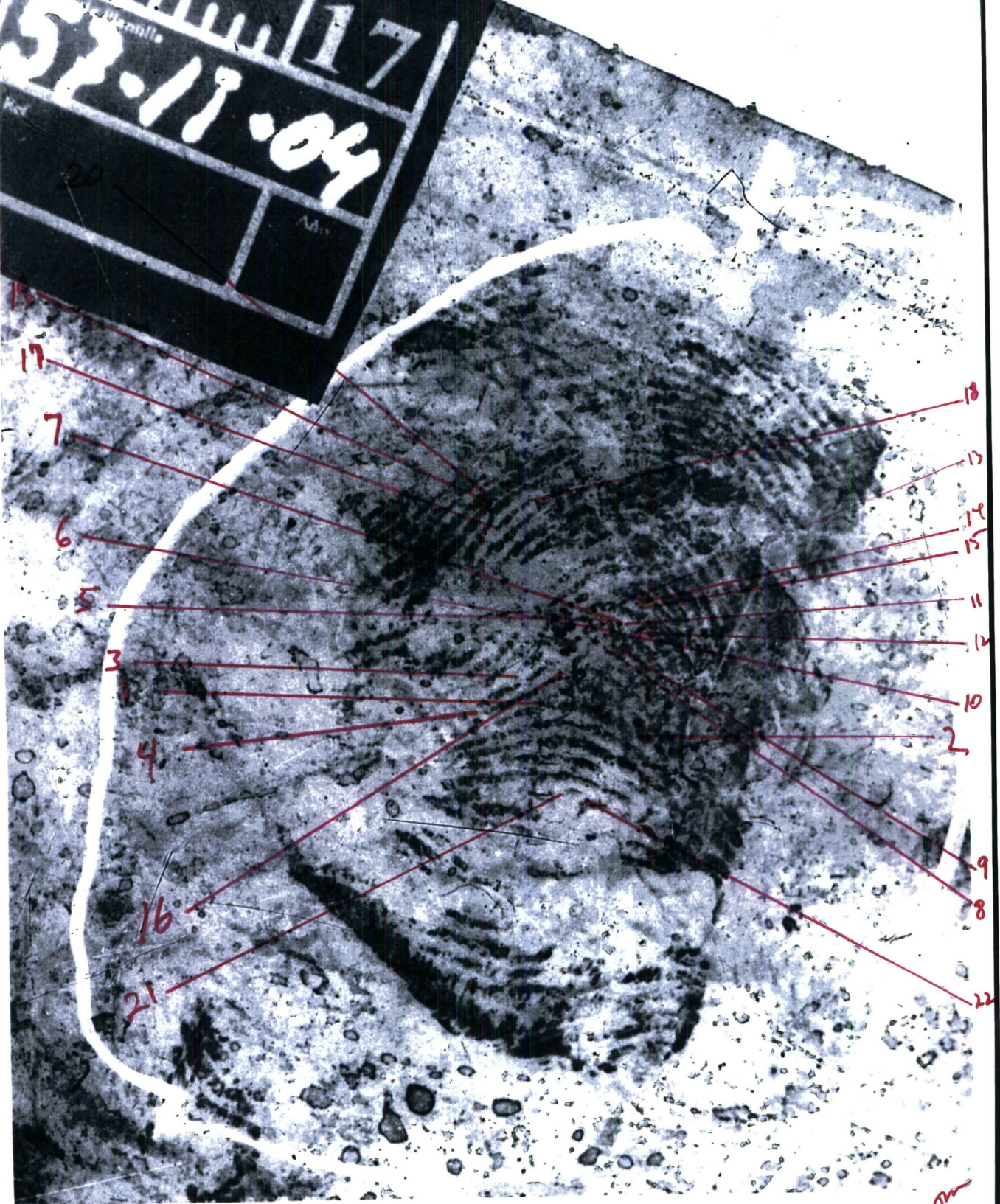
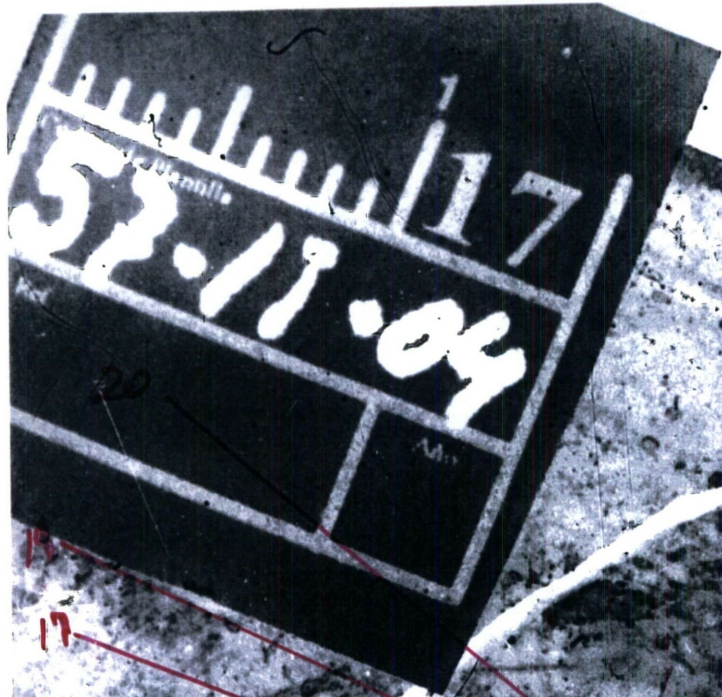
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E



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3 - Medio



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F



# Standard Operating Procedures for Examining Friction Ridge Impressions

## 1 Scope

To perform the Analysis, Comparison, Evaluation, and Verification (ACE-V) of friction ridge impressions utilizing a qualitative and quantitative assessment of level one, level two, and level three detail.

## 2 Equipment/Materials

- 2.1 Unknown friction ridge impression(s) (latent, patent, etched)
  - 2.1.1 Photograph(s)
  - 2.1.2 Negative(s)
  - 2.1.3 Lift(s)
  - 2.1.4 Processed item(s)
  
- 2.2 Known friction ridge impression exemplar(s) (fingerprints, palm prints, major case prints, footprints)
  - 2.2.1 Ink
  - 2.2.2 Live Scan
  - 2.2.3 Chemical
  
- 2.3 Magnifier(s)
  - 2.3.1 Fingerprint magnifiers
  
- 2.4 Microscopes/macrosopes
  
- 2.5 Latent Print Digital Imaging System (LPDIS)
  
- 2.6 Integrated Automated Fingerprint Identification System (IAFIS) Latent Print Workstation (LPW)
  
- 2.7 Repository of known exemplars/records
  - 2.7.1 Manual File(s)
  - 2.7.2 Automated File(s)

### **3 Calibration**

- 3.1 Microscopes/macrosopes. The Microscopes/macrosopes undergo external calibration and maintenance checks yearly.
- 3.2 IAFIS LPW scanner. The calibration, maintenance and/or updating of the scanner is performed by CJIS Division.

### **4 Purpose**

The purpose of the examination is to reach a conclusion of individualization, exclusion, or inconclusive.

### **5 Procedure**

Friction ridge impression examinations are conducted using the ACE-V methodology which includes both qualitative and quantitative analysis. The Scientific Working Group on Friction Ridge Analysis, Study, and Technology (SWGFAST) Friction Ridge Examination Methodology for Latent Print Examiners and the Standards for

Conclusions are followed for an individualization, exclusion, or inconclusive decision.

No minimum number of friction ridge detail is required to establish an identification. However, when less than twelve points of level two detail are utilized in making an identification, it must receive Supervisor approval before being reported as an identification. The Supervisor will approve by indicating "OK," date, and initials in the case notes next to the identification statement.

All identifications must be verified. Exceptions may occur when a second qualified examiner is not available and/or time constraints do not permit waiting for a second examiner (e.g., an identification effected as a result of a mandate from a judge during a trial). The ACE-V methodology is applied regardless of the combination of impression types (i.e., unknown v. known, known v. known, or unknown v. unknown).

### 5.1 Simultaneous impressions

When the friction ridge impressions of two or more fingers of one hand, each in a natural relationship with the other, are found then the information from all impressions is used to reach a conclusion.

## 6 Errors

### 6.1 Erroneous identifications

An erroneous identification is the incorrect determination that two areas of friction ridge impressions originated from the same person. An erroneous identification is the most serious error an examiner can make in technical casework.

### 6.2 Erroneous verifications

Verification of an erroneous identification is equal to having effected the original erroneous identification.

### 6.3 Missed identifications

A missed identification is the failure to make an identification when in fact both friction ridge impressions are from the same origin. This is not an erroneous identification.

### 6.4 Clerical and administrative errors

Clerical and administrative errors are not erroneous identifications. Examples include, but are not limited to, writing the wrong finger number or name.

## 7 Limitations

The following factors affect the qualitative aspects of unknown and known friction ridge impressions.

### 7.1 Anatomical aspects

#### 7.1.1 Condition of friction skin

### 7.2 Transfer conditions

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- 7.2.1 Pressure applied during transfer
- 7.2.2 Slippage or twisting
- 7.2.3 Sequence of deposition
  
- 7.3 Transfer medium
  - 7.3.1 Eccrine
  - 7.3.2 Sebaceous
  - 7.3.3 Blood
  - 7.3.4 Wet
  - 7.3.5 Paint
  - 7.3.6 Dirt
  - 7.3.7 Corrosive
  - 7.3.8 Oil/grease
  - 7.3.9 Other
  
- 7.4 Development method
  - 7.4.1 Forensic light source
  - 7.4.2 Chemical
  - 7.4.3 Powder
  
- 7.5 Substrate
  - 7.5.1 Porous
  - 7.5.2 Non-porous
  - 7.5.3 Semi-porous
  - 7.5.4 Smooth
  - 7.5.5 Rough or corrugated
  
- 7.6 Environmental
  - 7.6.1 Protected
  - 7.6.2 Unprotected
  - 7.6.3 Wet (excessive)
  - 7.6.4 Hot (excessive)
  - 7.6.5 Dry (excessive)
  
- 7.7 Preservation
  - 7.7.1 Lifting
  - 7.7.2 Photography
  - 7.7.3 Digitally captured
  - 7.7.4 Electronically captured

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8     **Safety** (not applicable)

9     **References**

- 9.1     SWGFAST, Friction Ridge Examination Methodology for Latent Print Examiners.
- 9.2     Ashbaugh, David R. "*Quantitative-Qualitative Friction Ridge Analysis, An Introduction to Basic and Advanced Ridgeology.*" CRC Press LLC, Boca Raton, Florida, 1999.
- 9.3     SWGFAST, Standards for Conclusions.

Rev.#	Issue Date:	History
1	4/9/98	Original Issue of Latent Fingerprint Section Friction Ridge Identification Protocol
2	9/15/2003	SOP for Friction Ridge Analysis in the Latent Print Units; Complete rewrite of document to emphasize ACE-V methodology.

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# SWGFAST

## Friction Ridge Examination Methodology for Latent Print Examiners

### Goal

Describe a method for friction ridge examinations and the bases for conclusion.

### Objectives

- \* Establish principles by which examinations are conducted.
  - \* Establish a method for friction ridge examination.
  - \* Establish the conclusions that may result from an examination.
1. Fundamental principles for friction ridge examinations by a latent print examiner, trained to competency<sup>1</sup>
    - 1.1 The morphology of friction ridge skin is unique.
    - 1.2 The arrangement of friction ridges is permanent barring trauma to the basal layer of the epidermis.
    - 1.3 An impression of the unique details of friction ridge skin can be transferred during contact with a surface.
    - 1.4 An impression that contains sufficient quality and quantity of friction ridge detail can be individualized to, or excluded from, a source.
    - 1.5 Sufficiency is the examiner's determination that adequate unique details of the friction skin source area are revealed in the impression.
  2. Levels and uses of friction ridge skin detail for examinations
    - 2.1 Level one detail
      - 2.1.1 Overall ridge flow
      - 2.1.2 General morphology (e.g., presence of incipient ridges, overall size)
      - 2.1.3 Can be used for pattern interpretation
      - 2.1.4 Can be used to determine anatomical source (i.e., finger, palm, foot, toe) and orientation

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<sup>1</sup> - SWGFAST Training to Competency for Latent Print Examiners

- 2.1.5 Cannot be used alone to individualize
- 2.1.6 Can be used to exclude under certain circumstances
- 2.2 Level two detail
  - 2.2.1 Individual ridge path
    - 2.2.1.1 Presence of ridge path deviation (e.g., ridge ending, bifurcation and dot)
    - 2.2.1.2 Absence of ridge path deviation (e.g., continuous ridge)
    - 2.2.1.3 Ridge path morphology (e.g., size and shape)
  - 2.2.2 Used in conjunction with level one detail to individualize
  - 2.2.3 Used in conjunction with level one detail to exclude
- 2.3 Level three detail
  - 2.3.1 Structure of individual ridges
    - 2.3.1.1 Shape of the ridge
    - 2.3.1.2 Relative pore position
  - 2.3.2 Other specific friction skin morphology (i.e., secondary creases, ridge breaks, etc.)
  - 2.3.3 Used in conjunction with level one and level two detail to individualize
  - 2.3.4 Used in conjunction with level one and level two detail to exclude
- 2.4 Other features associated with friction ridge skin (e.g., creases, scars, warts, paper cuts, blisters)
  - 2.4.1 May be permanent or temporary
  - 2.4.2 May exist as level one, two and three detail
  - 2.4.3 May be used in conjunction with friction ridge detail to individualize or exclude

3. Method of friction ridge examinations.

A recurring application of Analysis, Comparison, Evaluation and Verification (ACE-V) in each of the following:

3.1 Analysis

Analysis is the assessment of a friction ridge impression to determine suitability for comparison. Factors considered include the following:

3.1.1 Quality (clarity) and Quantity of detail



- 3.1.1.1 Level one detail
- 3.1.1.2 Level two detail
- 3.1.1.3 Level three detail
- 3.1.2 Anatomical source (finger, palm, foot, toe)
- 3.1.3 Factors influencing quality include:
  - 3.1.3.1 Residue/matrix
  - 3.1.3.2 Deposition
  - 3.1.3.3 Surface/substrate
  - 3.1.3.4 Environment
  - 3.1.3.5 Development medium
  - 3.1.3.6 Preservation method
  - 3.1.3.7 Condition of the friction skin

## 3.2 Comparison

Comparison is the direct or side-by-side observation of friction ridge detail to determine whether the detail in two impressions is in agreement based upon similarity, sequence and spatial relationship.

## 3.3 Evaluation

Evaluation is the formulation of a conclusion based upon analysis and comparison of friction ridge impressions. Conclusions which can be reached are:

### 3.3.1 Individualization (Identification)

Individualization is the result of the comparison of two friction ridge impressions containing sufficient quality (clarity) and quantity of friction ridge detail in agreement.

Individualization occurs when a latent print examiner, trained to competency<sup>1</sup>, determines that two friction ridge impressions originated from the same source, to the exclusion of all others.

### 3.3.2 Exclusion

Exclusion is the result of the comparison of two friction ridge impressions containing sufficient quality (clarity) and quantity of friction ridge detail

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<sup>1</sup>- SWGFAST Training to Competency for Latent Print Examiners

which is not in agreement.

Exclusion occurs when a latent print examiner, trained to competency<sup>1</sup>, determines that two friction ridge impressions originated from different sources.

### 3.3.3 Inconclusive

Inconclusive evaluation results when a latent print examiner, trained to competency<sup>1</sup>, is unable to individualize or exclude the source of an impression.

Inconclusive evaluation results must not be construed as a statement of probability. Probable, possible or likely individualization (identification) conclusions are outside the acceptable limits of the friction ridge identification science.

## 3.4 Verification

Verification is the independent examination by another qualified examiner<sup>1</sup> resulting in the same conclusion.

3.4.1 All individualizations (identifications) must be verified.

3.4.2 Exclusion or inconclusive results may be verified.

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<sup>1</sup> - SWGFAST Training to Competency for Latent Print Examiners

H

# SWGFAST

## Standards for Conclusions

### 1. Individualization (Identification):

The standard for individualization is agreement of sufficient friction ridge details in sequence.

#### 1.1 Conditions that shall be satisfied:

- 1.1.1 Determined by a competent<sup>1</sup> examiner, and
- 1.1.2 Applied to a common area in both impressions, and
- 1.1.3 Based on quantity and quality of the friction ridge details, and
- 1.1.4 Absent any discrepancy, and
- 1.1.5 Reproducible conclusion.

#### 1.2 Basic principles:

- 1.2.1 There is no scientific basis for requiring that a predetermined number of corresponding friction ridge details be present in two impressions in order to effect individualization.<sup>2</sup>
- 1.2.2 Individualization is supported by the theories of biological uniqueness and permanence, probability modeling, and empirical data gained through more than one hundred years of operational experience.

### 2. Exclusion:

The standard for exclusion is disagreement of friction ridge details.

#### 2.1 Conditions that must be satisfied:

- 
- <sup>1</sup> See SWGFAST Guideline for "Training to Competency".
  - <sup>2</sup> See SWGFAST Guideline for "Quality Assurance Guidelines for Latent Print Examiners".

- 2.1.1 Determined by a competent<sup>1</sup> examiner, and
  - 2.1.2 Applied to all comparable anatomical areas, and
  - 2.1.3 Presence of a discrepancy<sup>2</sup>, and
  - 2.1.4 Based on sufficient quantity and quality of the friction ridge details, and
  - 2.1.5 Reproducible conclusion.
- 2.2 Basic principles:
- 2.2.1 The presence of one discrepancy is sufficient to exclude.
  - 2.2.2 Distortion<sup>3</sup> is not a discrepancy and is not a basis for exclusion.
  - 2.2.3 Exclusion is supported by the theories of biological uniqueness and permanence, probability modeling, and empirical data gained through more than one hundred years of operational experience.

3. Inconclusive:

The standard for an inconclusive finding is the absence of sufficient friction ridge details to effect a conclusion of individualization or exclusion.

- 3.1 Conditions that must be satisfied:
- 3.1.1 Determined by a competent<sup>1</sup> examiner, and
  - 3.1.2 Based on quantity and quality of the friction ridge details, and
  - 3.1.3 Insufficient agreement or disagreement in the friction ridge details, and
  - 3.1.4 Reproducible conclusion.

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<sup>1</sup> See SWGFAST Guideline for "Training to Competency".

<sup>2</sup> See SWGFAST Glossary for "discrepancy".

<sup>3</sup> See SWGFAST Glossary for "distortion".

I

## Appendix I

### Level Two Details Used to Identify both Mayfield and Daoud (See Figures 6A-6C)

Mayfield ID(1)	Daoud ID(2)	Comment
2 *	SM (8) V2 (10) V1 (8)	Interpreted as an ending ridge pointing northwest in Mayfield, 9 ridges up from the dot (Mayfield point 6); actually a bifurcation in Daoud, forming the right half of a distinctive "x" formation.
3 *	SM (9) V1 (18)	Interpreted as an ending ridge pointing southeast in Mayfield, 8 ridges up from dot; actually a bifurcation in Daoud. Location in the latent appears to be more to the right than in the Mayfield exemplar.
4 *	SM (10) V2 (2) V1 (12)	Initially interpreted as a bifurcation for the IAFIS search; re-interpreted as an ending ridge pointing southeast in Mayfield; actually a bifurcation in Daoud (initial interpretation was correct).
5 *	SM (11) V1 (19)	Initially interpreted as a bifurcation for the IAFIS search; reinterpreted as an ending ridge pointing east in Mayfield, 3 ridges up from dot; actually an ending ridge in Daoud. Location in the latent appears to be more to the right than in the Mayfield exemplar.
6	SM (12-13) V2 (21-22) V1 (13-14)	Interpreted as a dot in the Mayfield; reinterpreted as the upper half of an incompletely reproduced small enclosure in Daoud.
9	SM (14) V1 (15)	Interpreted as an ending ridge pointing west in Mayfield, two ridges below dot; actually a bifurcation in Daoud.
10	SM (15) V1 (16)	Interpreted as an ending ridge pointing west in Mayfield; actually an ending ridge in Daoud.
12 *	SM (17) V2 (1) V1 (11)	Initially interpreted as a bifurcation for the IAFIS search; re-interpreted as an ending ridge pointing west in Mayfield, 5 ridges up from dot; actually a bifurcation in Daoud (initial interpretation was correct).
13 *	V2 (3) V1 (9)	Initially interpreted as an ending ridge eight ridges up from the dot, pointing southwest for the IAFIS search; re-interpreted as a bifurcation in Mayfield, 7 ridges up from dot; actually an ending ridge in Daoud (initial interpretation was correct). Note also the distinctive "zig" shape of the ridge which occurs in the latent print and both the Mayfield and Daoud exemplars.
15	SM (7) V2 (6) V1 (7)	Interpreted as a bifurcation on the left shoulder of the recurve in the Mayfield print; actually a bifurcation in Daoud, forming the left part of a distinctive "x" formation.

- (1) Number references correspond to points marked in 3/22 Charted Enlargements (Figures 2A-2B); asterisk indicates point was coded for IAFIS search.
- (2) References are to numbered points in charted enlargements prepared by Stephen Meagher (SM), first verifier (V1) and second verifier (V2) in connection with LPU identification of Daoud. See Appendices C-E.

J



## Appendix J

### Level Two Details Utilized in Mayfield Identification but Lacking Correspondence in Daoud Exemplars (See Figures 7A-7C)

Mayfield ID(1) Comment

1	Marked by LPU as a bifurcation forking to the west above the core of the print. This point was not included in the charted enlargements prepared for the 4/21/04 meeting with the SNP. Consultants did not find a basis for finding a bifurcation at that location. There is no bifurcation on the corresponding ridge in the Daoud exemplar.
7	Interpreted by LPU as an ending ridge 2 ridges up and to the left of the dot (6). The LPU noted that the ridge was incompletely reproduced in the Mayfield's civil exemplar and that the feature appears as a "continuing ridge with small breaks" in the criminal exemplar. This contributes to uncertainty over the location of the ridge ending. There is no tapering of the surrounding ridges on the latent such as might suggest an ending ridge in this location. There are no apparent breaks on the corresponding ridge on the Daoud exemplars; the gap in the latent therefore appears to be an incompletely reproduced ridge rather than an actual Level Two detail.
8	Interpreted by the LPU as a dot or short ridge two ridges up and to the left of the dot (6). On the latent, the point is near the edge of the impression and there is no clear tapering of the surrounding ridges to suggest a Level Two detail; such tapering is very clear in the Mayfield exemplars. The corresponding ridge on the Daoud exemplars does not end or break anywhere near this location, but rather continues to the southwest.
11	Interpreted by the LPU as an ending ridge five ridges above and to the left of the dot (6). Green originally plotted an ending ridge one ridge higher for the AFIS search and apparently moved the point down a ridge after seeing the Mayfield exemplars. Kenneth Moses also relied on this feature. On the latent, the point is near the edge of the impression. The corresponding ridge on the Daoud exemplars does not end or break AT this location, but rather continues to the southwest. There is, however, a bifurcation or ending ridge one ridge up.
14	Interpreted by the LPU as a bifurcation six ridges above the dot (6) and slightly to the left. Two consultants reported seeing nothing in LFP 17 to support finding a bifurcation in this location, although bifurcations are apparent on the ridges above and below this point. No Level Two ridge deviations appear at the corresponding location in the Daoud exemplars.

- (1) Number references correspond to points marked in 3/22 Charted Enlargements (Figures 2A-2B).

K

# Memorandum



To : Glenn A. Fine  
Inspector General

Date 12/14/2005

From : Charlene B. Thompson  
Assistant Director  
Inspection Division

Subject : Draft OIG Report on the FBI's  
Handling of the Brandon Mayfield Case

We appreciate the work of the Office of the Inspector General (OIG) in providing additional insights and perspective into how the Federal Bureau of Investigation (FBI) can strengthen the process of fingerprint identification. We also appreciate the work of the OIG that puts to rest unfounded speculation by some as to whether there was misconduct by the FBI or misuse of the Patriot Act. The FBI is confident that the Inspector General's findings and recommendations, combined with the substantial modifications already implemented, will significantly enhance our ability to perform our duties to the public. (U)

## A. Overview

In May 2004, Brandon Mayfield was arrested based on, as confirmed by the OIG report, an extraordinary confluence of events including principally an unusual similarity between Mr. Mayfield's known fingerprint and a copy of an extant fingerprint recovered from the scene of recent lethal terrorist bombings in Madrid. The fingerprint identification was made by the FBI as well as by Mr. Mayfield's own fingerprint expert. Other evidence that appeared to corroborate the fingerprint match included Mr. Mayfield's connections to known and suspected terrorists which were documented and outlined to the Court. (U)

As was learned later in May of 2004, the fingerprint identification made by the FBI and defense experts was wrong. Upon learning of the mistake, at the request of the government Mr. Mayfield was immediately released from prison and the charges dismissed. The FBI also immediately convened a panel of international experts to examine what went wrong and to propose reforms to minimize the risk or reoccurrence. Those reforms have been undertaken by the FBI. (U)

The FBI also cooperated completely and exhaustively for months with the additional investigation undertaken by the OIG to assess what happened and again propose any further measures to promote the effectiveness of the agency. As did the international panel of experts convened by the FBI, the OIG identifies as the primary factor for the mistake made by the FBI and the defense experts the extraordinarily "unusual similarity" between the two prints (the known fingerprint of Mr. Mayfield and the extant fingerprint recovered from the Spanish crime scene), which led all the experts to reach the same conclusion. Such a degree of similarity of fingerprints from two persons is "extremely rare," the OIG report notes. (U)

The OIG report identifies several ways in which the methodology of the FBI can be enhanced to minimize the risk of reoccurrence. Several of these helpful ideas were identified and evaluated by the international expert panel immediately after the discovery of the mistaken

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Memorandum from Charlene B. Thornton to Glenn A. Fine  
Re: Draft OIG Report on the FBI's, 12/14/2005

identification. Following that review, the FBI implemented a series of procedural reforms designed to prevent future errors. The OIG has now finished its evaluation of these measures and concludes in its report that these were "significant steps" undertaken by the FBI. The OIG also has recommended additional measures that the FBI can implement to strengthen further the FBI's assessment of fingerprints. You have our assurance that to the extent they have not yet been acted upon they will all be considered and discussed with leading experts to make sure that the FBI is employing the most effective means to ensure the integrity of its expert examinations. (U)

The OIG report also finds no merit to several spurious claims and/or rumors. First, the OIG report concludes that there was no evidence of misuse of the Patriot Act. The report finds, "contrary to public speculation," that the FBI did not use certain provisions of the Patriot Act and that the Act did not affect the scope of the FBI's use of FISA surveillance or searches. Indeed, the OIG finds that the effect of the Patriot Act on this investigation was to enable the FBI lawfully to share information with other members of the law enforcement and intelligence communities. Second, though the question was raised as to whether religion played any role in the FBI's identification or investigation of Mr. Mayfield, the OIG report concludes that religion played no part in either. Third, the OIG found no evidence of misconduct on the part of any FBI employees involved in this investigation. (U)

B. Comments on the Draft OIG Report

As noted previously to you, we believe the following aspects of the OIG report are incomplete or inaccurate. (U)

(A) The OIG report suggests that the affidavit in support of the arrest of Mr. Mayfield provided an "ambiguous" description of the April 21 meeting between the FBI and the Spanish National Police (SNP), which "apparently" led the judge to believe that the SNP had agreed with the FBI's identification. The facts show that the language was appropriate given the information available at the time and more than met the Government's Brady obligations. A fair reading of the affidavit, as articulated in the submissions by the United States Attorney's Office for the District of Oregon (USAO Submissions), could not have led to any confusion. In fact, as specifically noted in the USAO Submissions, there is no reason to believe that the language caused the Court to labor under a misimpression; all evidence is that the Court was well aware of the pertinent facts then known to us. (U)

(B) The OIG report criticizes certain aspects of the affidavit submitted to the Court. Although we disagree with these criticisms for the reasons set forth below and in our prior submission, we note that it is clear that they are immaterial to any substantive decision made by the Court, an assessment with which the OIG report does not disagree. For instance, the report states that the images of the latent prints were provided to the FBI by Interpol and not by the SNP. But the report fails to explain that the latent prints were provided to Interpol by the SNP. There is no question that the SNP was the source of the latent print – Interpol was merely a conduit. Indeed, Interpol is an international organization that facilitates cross-border police cooperation and assists agencies whose mission is to prevent or combat international crime. Accordingly, the affidavit submitted by law

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enforcement to the Court stating the provenance of the fingerprints as being the SNP was accurate. Criticizing the affiant for not including the irrelevant detail that Interpol was the conduit is unwarranted. (U)

The OIG report also takes issue with the use of the word "likelihood" in one sentence of the affidavit, suggesting that its usage suggested an unwarranted factual inference that Mr. Mayfield used false travel documents. The affidavit, however, explicitly and clearly states that it was unknown whether Mr. Mayfield even traveled to Spain, thus clearly negating a conclusion that it was likely that Mr. Mayfield used false travel documents to go to Spain. Finally, we note that there is no reason to believe, and the OIG report does not contend, that the Court was misled by what the report characterizes as at most a "lack of attention to detail." (U)

(C) The report on page 122, Section A.1., states that the "unusual similarity of Level 2 features on the fingerprints [prints added for clarification] of Mayfield and Daoud . . . was an important factor contributing to the erroneous identification." We would disagree with this statement factually if it were read to mean that the known fingerprints of Mr. Mayfield and the known fingerprints of Mr. Daoud are unusually similar. However, we assume that the draft report means to say that if a qualified fingerprint examiner were to compare LFP #17 (the latent fingerprint found at the crime scene in Spain) to Mr. Mayfield's known fingerprints, he or she might well find unusual similarities. This is not because of an unusual similarity between Messrs. Mayfield's and Daoud's known fingerprints, but rather due to the unusual similarity between Mr. Mayfield's fingerprint and LFP #17. (U)

L



**U.S. Department of Justice**

*Karin J. Immergut*

*United States Attorney*

*District of Oregon*

*1000 SW Third Avenue, Ste. 600*

*(503) 727-1000*

*Portland, OR 97204-2902*

*Fax: (503) 727-1117*

December 13, 2005

Glenn A. Fine  
Inspector General  
U.S. Department of Justice  
Office of the Inspector General  
950 Pennsylvania Ave., NW  
Suite 4712  
Washington, DC 20530

Dear Mr. Fine:

I am writing in response to your request for comment about the proposed report of the Office of Inspector General concerning the Brandon Mayfield case (hereafter the "draft report") which my office received on December 9, 2005. I appreciate the opportunity to provide you with input. The proposed report fails to account for and appreciate several critically important matters regarding the actions of employees of the Portland Division of the FBI and my office. To the extent that the ultimate conclusions contained in the report are based upon these omissions, they are erroneous. I respectfully request that you reconsider some of your conclusions and include the additional information detailed below. Although there are many areas in which we view the facts differently than your report, we will limit our response here to the three most significant. (U)

As you are aware, the Office of Professional Responsibility has now issued its report exonerating the attorneys in my office and concluding that they exercised good judgment. Throughout the draft report, the existence of an ongoing OPR investigation is noted. In fairness, we believe each of those references should be changed to state that OPR has reviewed the conduct of the attorneys involved and concluded that they committed no misconduct and exercised good judgment. To do otherwise permits the inference that there is some unresolved issue regarding the attorneys in my office when there is not. (U)

**A. Description of the April 21 Spanish National Police Meeting**

First, the draft report criticizes the description in the affidavits prepared in Portland of the April 21, 2004 meeting between the FBI and the Spanish National Police which indicated that at the conclusion of the meeting "it was believed that the SNP felt satisfied with the FBI Laboratory's identification . . ." of the latent fingerprint. The draft report's characterization of this language as "ambiguous" is not supported by the facts as known to Portland personnel at the time the affidavits were submitted to the Court. Indeed, the draft report notes that the three FBI employees who attended the April 21 meeting told your own investigators "that most or nearly all of the SNP

examiners seemed to be impressed” by the FBI’s presentation. Draft Report, p. 52. That was precisely the message received in Portland and set forth in the affidavit. Moreover, the report fails to note that the SNP examiner who finally identified the latent print as belonging to the Algerian suspect spoke to representatives of my office and the FBI during a June 9, 2004 meeting. He acknowledged that at the conclusion of the April 21 meeting he thought “*for sure*” that the latent print belonged to Mayfield. This statement corroborates the affidavit and should be included in the report. (U)

The report also errs by suggesting that the alleged ambiguity concerning the meeting should be blamed on Department personnel located in Portland. The report should note that no Portland personnel were allowed to go to Madrid during the investigation, despite my and FBI SAC Jordan’s separate requests. The report does correctly note that:

[h]aving participated in the April 21 meeting and served as translator for it, the Madrid Legat was in the best position to correct the [alleged ambiguity] . . .

Draft Report, p. 216. However, the report incorrectly criticizes those who drafted the affidavits for failing to “consult[] directly with the Madrid Legat to seek less ambiguous language.” Draft Report, p. 216. It is our position that we did precisely that. (U)

As recognized in the report, the affidavits’ description of the SNP position following the April 21 meeting was a virtual direct quote from the official memorandum prepared by the Madrid Legat the day after the meeting:

Unit Chief Weiners provided satisfactory explanations for each of their questions and at the conclusion of the meeting **all of the SNP personnel seemed satisfied with the FBI’s identification.**

Draft Report, p. 53 (emphasis added). The report accurately states that Portland personnel sent the draft language describing the April 21 meeting to the Madrid Legat on April 29, a week before its presentation to the Court. We reasonably expected that, if there were a problem with the language employed, the Madrid Legat would have corrected it. Thus, contrary to the draft report’s suggestion, there should be no dispute but that Portland personnel did “consult directly” with the Legat. We employed best practices by quoting the official report of the primary witness and then circulating the description of the meeting to that witness in order to ensure accuracy. The affidavit correctly informed the Court that the Spanish intended to continue their analysis of the print. It did not state that they had formally concurred with the FBI’s identification. (U)



Moreover, the report fails to account for the fact that on May 4, Portland FBI SAC Jordan and I (along with several members of our respective staffs) spoke directly with the Madrid Legat by teleconference. The Legat told us that *the SNP were about to issue a final report concurring with the FBI fingerprint identification*. This teleconference was specifically convened to consider whether Portland should recommend that a warrant be sought to detain Mr. Mayfield as a material witness. Your office has been informed about this teleconference, and a description of it should be included in your report. Certainly, it directly rebuts the criticism that we should have consulted directly with the Legat. (U)

In summary, Portland personnel took several eminently responsible steps to verify the accuracy of the affidavit. In light of all of those steps, I respectfully request that you reconsider the conclusion that the affidavit language was ambiguous and the suggestion that Portland personnel should have done more in summarizing the results of the April 21 meeting with the Spanish National Police. (U)

**B. False Travel Documents Allegation**

The report also contends that the affidavit should have stated that there was a “possibility” that Mayfield possessed false documents rather than that there was a “likelihood” such documents existed. We contend this criticism ignores both the role of an affidavit in criminal procedure and the value of a trained law enforcement agent’s experience in analyzing known facts and making deductions and inferences from those facts. (U)

The purpose of an affidavit is to set forth those facts upon which the government relies in requesting that a judge draw a particular legal conclusion, while at the same time complying with our duty to reveal any known facts which detract from our request. Here, the Court was asked to conclude, and Judge Jones ultimately did conclude, that it was impracticable to assure Mayfield’s appearance before the grand jury by subpoena. The report does not suggest a single known fact which detracted from that conclusion which was not contained in the affidavit. (U)

There were only two common sense ways to explain how Mayfield’s fingerprint could be on a bag of detonators in Spain – either Mayfield had traveled to Spain and handled the bag or he had touched the bag in the United States before someone else transported it to Spain. Both possibilities were explicitly proposed in the affidavit. Both possibilities suggested that Mayfield had material testimony to provide concerning the Madrid bombings – either as an observer or as a participant if he had been in Spain or as an associate of someone else who may have transported the bag to Spain. (U)

The affidavit disclosed that Mayfield had not recently traveled overseas, at least under his true name. The FBI agent who signed the affidavit was entitled to rely upon his over twenty

years experience as a federal law enforcement officer, and upon both the classified and the unclassified information of which you are aware, to infer from those facts that *if* Mayfield traveled to Spain he *may* have used another identity and false papers. If Mayfield had traveled to Spain, it was indeed *likely* that he did so using false papers since no record of travel under his real name could be found. The context in which the affidavit asserted there was a “likelihood” of false papers does not create any misimpression. Quite the contrary, it candidly discloses that the affiant did not know whether Mayfield had traveled; thus, the “likelihood” referred to is clearly an inference based on a possibility. To describe this as “an unfounded inference” simply ignores the context. To claim that instead the affiant should have said that there was “a possibility” of false papers also ignores that the affidavit clearly described Mayfield’s travel as only one of the *possible* scenarios which could have gotten his print on the bag. We respectfully contend this criticism addresses what are, at best, semantic distinctions. Any fair reading of the affidavit would conclude that it asserted no more than a *possibility* that Mayfield used false travel documents. (U)

In any event, the affidavit’s assertion that it was “likely” that Mayfield used false travel documents was clearly an inference. It did not purport to be a factual representation. The district judge was free to accept or reject the inferences set forth in the affidavit. Ultimately, a neutral federal district judge came to the same conclusion as did the affiant and found as a matter of law that “it appears impracticable to secure the attendance of [Mayfield] at grand jury by subpoena unless he is arrested and detained . . .” Order for Arrest Warrant and Detention, filed May 6, 2004. The Portland personnel who drafted the affidavit should not be criticized for making the same inferences and reaching the same conclusion as did the district court. (U)

### C. Attention to Detail

Finally, the Executive Summary, as well as the body of the draft report, characterizes minor factual inaccuracies contained in the affidavits as reflecting a “regrettable lack of attention to detail.” Draft Report at 19. In all fairness, the final report should note that each of those minor factual discrepancies were *immaterial as a matter of law* to the issue of whether Brandon Mayfield should be held as a material witness or his premises searched. For example, the report criticizes the affidavit for stating that the FBI obtained the latent print from the SNP, when in fact Interpol had transmitted the print from the SNP to the FBI. We do not regard this as an inaccuracy at all, because there is no question that the SNP was the source of the print. This is rather like criticizing someone for saying they got a bill from the phone company instead of saying they got it from the mailman. The materially important fact is the source of the print, not who transmitted it. Such trivial inaccuracies could not have influenced the decision to issue the warrants, and do not, even when taken together, show a lack of attention to detail. Furthermore, the Executive Summary, which I understand you intend to release publicly, should also note your conclusion set out at page 211 of the Draft Report that the fault for these minor factual

Glenn A. Fine  
December 13, 2005  
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inaccuracies belongs with the person at the FBI Laboratory who approved the affidavit's language when it was read to him by personnel from Portland. (U)

Again, I thank you for the opportunity to provide comments on behalf of my office.

Sincerely,

A handwritten signature in black ink, appearing to read "Karin J. Immergut". The signature is fluid and cursive, with a large initial "K" and a long, sweeping tail.

KARIN J. IMMERGUT  
United States Attorney