



Document #9

Standard for the Documentation of Analysis, Comparison, Evaluation, and Verification (ACE-V) in Tenprint Operations (Tenprint)

1. Preamble

- 1.1. Many examinations conducted in a tenprint operational environment are documented using an automated process. When documentation for routine examinations is retained and retrievable from electronic logs, it is adequate for identity assurance purposes. At a minimum, all automated friction ridge examination documentation shall include the following:
 - 1.1.1. Unique identifiers of the questioned print(s) and known print(s) used to reach the conclusion(s)
 - 1.1.2. Unique identifiers of the examiner(s) (e.g., initials, signature, or equivalent electronic signature)
 - 1.1.3. Date(s) of examination(s)
 - 1.1.4. Results of examination(s)
- 1.2. Routine examinations conducted within a tenprint operational environment that are not sufficiently documented through an automated process shall be documented manually by the examiner.
- 1.3. Examinations determined by an agency to be of a non-routine or complex nature require a greater degree of documentation of analysis, comparison, evaluation, and verification (ACE-V). These examinations may include, but are not limited to:
 - 1.3.1. Establishing identity for the purpose of testimony (e.g., sentence enhancements for prior convictions)
 - 1.3.2. Single inked prints on items that are considered evidence or elements of an offense (e.g., forged or counterfeit checks, pawn shop tickets that relate to stolen property)
 - 1.3.3. Friction ridge prints of an unknown deceased person
 - 1.3.4. Friction ridge prints submitted to challenge the accuracy of an official government record
- 1.4. When friction ridge prints are examined using the ACE-V methodology, an examiner’s documentation shall be such that another competent examiner can determine what was done and interpret the data. Documentation shall be made at or near the time of the examination and may be in the form of annotated images, narratives, worksheets, annotated legible copies, sketches, electronic records, or any combination of these items. This documentation will be a part of the case record. A case record consists of the administrative and technical records, whether hard copy or electronic, pertaining to a

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particular case. Although all examinations require documentation, the extent of the documentation shall reflect the complexity of the examination and circumstances surrounding the examination. The friction ridge impressions alone are not sufficient documentation. The impressions or legible copies shall be annotated or have accompanying transaction records.

2. Analysis

2.1. Questioned print of value

2.1.1. Analysis documentation of a questioned print of value shall be completed prior to comparison. The quality and quantity of the information present in the questioned print will dictate the extent of the documentation. At a minimum, the following shall be documented in the case record:

2.1.1.1. Submission method (e.g., AFIS, fingerprint card, check copy, facsimile)

2.1.1.2. Recording method (e.g., ink, livescan, chemical)

2.1.1.3. Anatomical orientation (e.g., distal direction)

2.1.1.4. Sequential orientation (e.g., multiple impressions)

2.1.1.5. Presence of Level 1 detail of prints used in comparisons

2.1.1.6. Presence of Level 2 detail of prints used in comparisons

2.1.1.7. Other friction ridge skin detail (e.g., creases, scars, mutilations)

2.1.2. When known, the following shall be documented within the case record:

2.1.2.1. Demographic information

2.1.2.2. Origin of submission (e.g., contributor, database retrieval)

2.1.3. The analysis of questioned print(s) should also include documentation of additional factors such as matrix, deposition pressure, lateral movement, rotational movement, Level 3 detail, or other friction ridge skin detail that may affect the comparison.

2.1.4. If the original questioned print(s) of value will not be maintained in the case record, a legible copy of the questioned print(s) shall be retained.

2.2. Questioned print(s) of no value

The presence of friction ridge impressions that are of no value shall be documented.

3. Comparison

3.1. Documentation shall include the information relied upon during the comparison. At a minimum, the following information shall be documented in the case record:

3.1.1. Unique identifier of the questioned prints(s) and known print(s) such as name, date of birth, assigned identification number, or reference to the specific questioned prints(s) and known print(s) (e.g., date of arrest, date of recording, submitting agency).

3.1.2. Anatomical source(s) represented in the questioned print(s) (i.e., fingerprint, palm print, or footprint).

3.2. A legible copy of the questioned print(s) and the known print(s) used in the comparison shall be retained in the case record.

3.3. Known print(s) that are deemed insufficient for comparison or that contain any factors that adversely affect the comparison shall be documented. The quality and quantity of the information present will dictate the extent of the documentation. These factors include:

3.3.1. Incomplete recording of the friction ridge skin

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- 3.3.2. Missing anatomical sources (e.g., areas of fingers and palms)
- 3.3.3. Unclear recording of the friction ridge skin
- 3.4. If re-analysis of the questioned print during the comparison results in new information, supplemental notes shall be added and dated.

4. Evaluation

- 4.1. The final conclusion of the comparison of each questioned print(s) and known print(s) shall be documented. Analysis documentation of a latent print of value shall be completed prior to comparison.
- 4.2. Documentation of an individualization shall include:
 - 4.2.1. Specific friction ridge impression examined
 - 4.2.2. Unique identifier of the questions print(s) and known print(s) used to reach the conclusion
 - 4.2.3. Specific anatomical source (e.g., right thumb and left palm)
 - 4.2.4. Initials, signature, or equivalent (e.g., unique identifier and electronic signature) of examiner
 - 4.2.5. Date conclusion reached
- 4.3. Documentation of an exclusion shall include:
 - 4.3.1. Specific friction ridge impression examined
 - 4.3.2. Unique identifier of the questions print(s) and known print(s) used to reach the conclusion
 - 4.3.3. Initials, signature, or equivalent (e.g., unique identifier and electronic signature) of examiner
 - 4.3.4. Date conclusion reached
- 4.4. Documentation of an inconclusive shall include:
 - 4.4.1. Specific friction ridge impression examined
 - 4.4.2. Unique identifier of the questions print(s) and known print(s) used to reach the conclusion
 - 4.4.3. Specific anatomical source (e.g., right thumb and left palm)
 - 4.4.4. Reason for inconclusive conclusion (e.g., better prints needed, specific anatomical sources needed, or insufficient friction ridge detail in agreement)
 - 4.4.5. Initials, signature, or equivalent (e.g., unique identifier and electronic signature) of examiner
 - 4.4.6. Date conclusion reached
- 4.5. Conclusions shall be documented prior to verification.

5. Verification

- 5.1. Verification shall be documented and include:
 - 5.1.1. Specific friction ridge impression(s) examined
 - 5.1.2. Unique identifier of the questions print(s) and known print(s) used to reach the conclusion
 - 5.1.3. Specific anatomical source (e.g., right thumb and left palm)
 - 5.1.4. Initials, signature, or equivalent (e.g., unique identifier and electronic signature) of verifying examiner
 - 5.1.5. Date of verification

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6. Consultations

6.1. Consultations shall be documented and include:

6.1.1. Specific friction ridge impression(s) reviewed

6.1.2. Nature and result of consultation (e.g., reviewed individualization)

6.1.3. Initials, signature, or equivalent (e.g., unique identifier and electronic signature) of examiner(s)

6.1.4. Date of consultation

7. Reference

[1] SWGFAST, *Standard Terminology of Friction Ridge Examination*, 2/11/11, ver. 3.

Appendix A

The worksheets below are examples of a form used for the documentation of ACE-V for examinations of questioned print(s) and known prints(s). Note, additional worksheets would be needed for additional examinations. In this example, the case record would also include the known print(s) or legible reproduction(s) that contain markings/notations indicating which impressions were compared.

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ACE-V DOCUMENTATION SHEET Example #1

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Analysis must be consistent with SWGFAST terminology and definitions, and shall include, but not be limited to, the following elements:

ANALYSIS				
MATRIX	<input type="checkbox"/> INK <input type="checkbox"/> OTHER: (describe fully)			
SUBSTRATE	<input type="checkbox"/> PAPER <input type="checkbox"/> OTHER: (describe fully)			
OVERLAY (describe fully)				
PRESERVATION	<input type="checkbox"/> LIVE SCAN <input type="checkbox"/> DIGITAL format _____ <input type="checkbox"/> PDF <input type="checkbox"/> OTHER: (describe fully)			
ENVIRONMENT	<input type="checkbox"/> WET <input type="checkbox"/> DRY <input type="checkbox"/> PROTECTED <input type="checkbox"/> OTHER: (describe fully)			
SKIN CONDITION (incl. scar, wart, etc. location):				
DEPOSITION PRESSURE:				
LEVEL 1:	LEVEL 2:		LEVEL 3/VISIBLE? <input type="checkbox"/> YES <input type="checkbox"/> NO	
QUALITY	<input type="checkbox"/> HIGH	<input type="checkbox"/> MEDIUM HIGH	<input type="checkbox"/> MEDIUM LOW	<input type="checkbox"/> LOW
<input type="checkbox"/> COMPLEX IMPRESSION <input type="checkbox"/> NON-COMPLEX IMPRESSION				
AREA(S) OF SPECIFICITY:				
DISTORTION – SLIPPAGE, TWISTING, RIDGE STRETCH, RIDGE COMPRESSION (describe fully):				
<input type="checkbox"/> SUITABLE FOR COMPARISON	<input type="checkbox"/> OF VALUE FOR EXCLUSION ONLY	<input type="checkbox"/> SUITABLE FOR AFIS SEARCH	<input type="checkbox"/> NO VALUE FOR COMPARISON	

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COMPARISON		
LEVEL 1 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO	LEVEL 2 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO	LEVEL 3 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
TARGET GROUP AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO		AREA(S) OF SPECIFICITY AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO
ADDITIONAL FEATURE AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO		
DISAGREEMENT NOTED (IF APPLICABLE):		
EVALUATION		
SUFFICIENCY OF AGREEMENT FOR INDIVIDUALIZATION <input type="checkbox"/> YES	INCONCLUSIVE CONCLUSION <input type="checkbox"/> YES <input type="checkbox"/> Lack of complete or legible known prints <input type="checkbox"/> Insufficient features in agreement or disagreement	
SUFFICIENCY OF DISAGREEMENT FOR EXCLUSION <input type="checkbox"/> YES		
OBJECTIVE DATA ONLY USED <input type="checkbox"/> YES <input type="checkbox"/> NO	CUMULATIVE WEIGHT OF DATA SUPPORTS CONCLUSION <input type="checkbox"/> YES <input type="checkbox"/> NO	
CONCLUSION REPRODUCIBLE? (CONSENSUS AGREEMENT/OPEN TO SCRUTINY) <input type="checkbox"/> YES <input type="checkbox"/> NO		
ATTEMPT TO FALSIFY (FIND ALTERNATE CONCLUSION) <input type="checkbox"/> YES <input type="checkbox"/> NO (if yes describe process)		
PRIMARY EXAMINER	DATE:	
VERIFICATION EXAMINER	DATE:	
TECHNICAL REVIEW:	DATE:	

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ACE-V DOCUMENTATION SHEET Example #2

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Analysis must be consistent with SWGFAST terminology and definitions, and shall include, but not be limited to, the following elements:

ANALYSIS				
LEVEL 1:		LEVEL 2:		LEVEL 3/VISIBLE? <input type="checkbox"/> YES <input type="checkbox"/> NO
QUALITY	<input type="checkbox"/> HIGH	<input type="checkbox"/> MEDIUM HIGH	<input type="checkbox"/> MEDIUM LOW	<input type="checkbox"/> LOW
<input type="checkbox"/> COMPLEX IMPRESSION <input type="checkbox"/> NON-COMPLEX IMPRESSION				
AREA(S) OF SPECIFICITY:				
<input type="checkbox"/> SUITABLE FOR COMPARISON		<input type="checkbox"/> NO VALUE FOR COMPARISON		
COMPARISON				
LEVEL 1 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO		LEVEL 2 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO		LEVEL 3 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
ADDITIONAL FEATURE AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO				
EVALUATION				
INDIVIDUALIZATION <input type="checkbox"/>		EXCLUSION <input type="checkbox"/>		INCONCLUSIVE <input type="checkbox"/>
PRIMARY EXAMINER:			DATE:	
VERIFICATION EXAMINER:			DATE:	
TECHNICAL REVIEW:			DATE:	

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ACE-V DOCUMENTATION SHEET Example #3

This example provides for the documentation of the analysis performed on both impressions to be compared to each other.

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Analysis must be consistent with SWGFAST terminology and definitions, and shall include, but not be limited to, the following elements:

ANALYSIS											
Questioned Print: <input type="checkbox"/> Known Print: <input type="checkbox"/>						Questioned Print: <input type="checkbox"/> Known Print: <input type="checkbox"/>					
Name:			DOB:		Case ID:	Name:			DOB:		Case ID:
QUALITY	<input type="checkbox"/> HIGH	<input type="checkbox"/> MEDIUM HIGH		<input type="checkbox"/> MEDIUM LOW	<input type="checkbox"/> LOW	QUALITY	<input type="checkbox"/> HIGH	<input type="checkbox"/> MEDIUM HIGH		<input type="checkbox"/> MEDIUM LOW	<input type="checkbox"/> LOW
<input type="checkbox"/> COMPLEX IMPRESSION <input type="checkbox"/> NON-COMPLEX					<input type="checkbox"/> COMPLEX IMPRESSION <input type="checkbox"/> NON-COMPLEX						
Anatomical orientation:						Anatomical orientation:					
<input type="checkbox"/> SUITABLE FOR COMPARISON <input type="checkbox"/> NO VALUE FOR COMPARISON						<input type="checkbox"/> SUITABLE FOR COMPARISON <input type="checkbox"/> NO VALUE FOR COMPARISON					
Date of Arrest:			Date of Recording:			Date of Arrest:			Date of Recording:		
Submitting Agency:						Submitting Agency:					
Submission Method:						Submission Method:					
Recording Method:						Recording Method:					
<input type="checkbox"/> Fingerprint		<input type="checkbox"/> Palm print		<input type="checkbox"/> Footprint		<input type="checkbox"/> Fingerprint		<input type="checkbox"/> Palm print		<input type="checkbox"/> Footprint	
COMPARISON											
LEVEL 1 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO				LEVEL 2 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO				LEVEL 3 AGREEMENT <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A			
Additional Details:											
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EVALUATION		
INDIVIDUALIZATION <input type="checkbox"/>	EXCLUSION <input type="checkbox"/>	INCONCLUSIVE <input type="checkbox"/>
Inconclusive comments:		
Additional Documentation attached <input type="checkbox"/>		
PRIMARY EXAMINER:	DATE:	
VERIFICATION EXAMINER:	DATE:	
TECHNICAL REVIEW:	DATE:	

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8. Revision Table

Version	Effective Start	Effective End	Posted	Archived	Change
1.0	3/06/12	N/A	4/21/12		Original Issue
2.0	09/11/12	N/A		N/A	Clarification in preamble Reformatted (start of new version number)

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