

QD SOP-14 Procedure for Examination of Dry Seal Impressions

Approved by Director: Dr. Guy Vallaro

Document ID: 2193
Revision: 1
Effective Date: 1/4/2016
Status: Retired
Page 1 of 4

Purpose: Procedure for Examination of Dry Seal Impressions

This procedure provides guidance that should be used by forensic document examiners (Standard for Scope of Work of Forensic Document Examiners) for examinations and comparisons involving dry seal devices and their impressions. By following these procedures, a forensic document examiner can reliably reach an opinion concerning whether two or more dry seal impressions have a common origin, or if a dry seal impression was created by a specific dry seal device.

Evidence submitted for examination may have inherent limitations that can interfere with the methods listed in this procedure. Any limitations should be noted and recorded on the QR DOC-2 or case notes. Limitations can be due to submission of non-original documents, limited quantity or comparability, or condition of the items submitted for examination (for example, distorted impressions, partially imprinted impressions, or variations in surface texture).

Improper prior storage and handling, previous testing, or chemical processing (for example, for latent prints) can interfere with the examination of certain characteristics. The effects can include, but are not limited to, flattening of the embossment or impression, partial destruction of the paper, and stains. Whenever possible, document examinations should be conducted prior to any chemical processing. Items should be handled appropriately to avoid compromising subsequent examinations.

When conducting this type of examination, the examiner should consider the possibility that a dry seal device can be manufactured which duplicates the impressions of another dry seal.

Responsibility:

Forensic Science Examiners assigned to the Questioned Documents Unit or performing casework in the Unit

Equipment:

1. Lighting (natural, fluorescent) and alternate light sources
Lighting may include the use of transmitted, side or vertical lighting to improve the ability to view fine details.
2. Stereomicroscopes with fiber-optic lighting
3. Electrostatic Detection Apparatus
4. Measuring devices
5. Scanners
6. Cameras

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Document ID: 2193
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Page 2 of 4

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Procedure:

1. Examine subject document(s) using oblique illumination and photograph any visible indented impressions and/or image. In some instances, the use of side lighting in a room with subdued light may provide better visualization of indentations.

Document any indentations observed on the QR DOC-2. If indentations are not observed, document the lack of visible indentations.

At various points in these procedures, a determination that a particular feature is not present or that an item is lacking in quality or comparability can indicate that the examiner should discontinue or limit the procedure(s). It is at the discretion of the examiner to discontinue the procedure at that point and report accordingly or to continue with the applicable procedures to the extent possible. Document the reasons for such a decision and report this accordingly.

2. Determine whether the submitted Questioned impression(s) were produced by a dry seal device. If the Questioned impression was not created by a dry seal device, discontinue examination and report accordingly.
3. Determine whether the examination is a comparison of Questioned impressions; a comparison of a Questioned impression(s) with a Known impression(s); or a comparison of a Questioned impression(s) with a dry seal device.
4. Determine whether the submitted Questioned impression(s) is suitable for comparison. If it is not suitable for comparison, discontinue the procedure and report accordingly. Factors that affect the suitability include clarity, detail, degree of embossing or condition of the document. Submission of the original is usually necessary for the examination of individualizing characteristics.
5. If a Known document(s) is submitted, determine whether the Known document(s) is suitable for examination, or comparison, or both. If it is not suitable, discontinue the procedure and report accordingly. Factors that affect the suitability include clarity, detail, or condition of the document.
6. If the original is not submitted, evaluate the quality of the best available reproduction to determine whether significant details have been reproduced with sufficient clarity for comparison purposes and proceed to the extent possible. If the reproduction is not of sufficient clarity for comparison purposes, discontinue these procedures and report accordingly.

QD SOP-14 Procedure for Examination of Dry Seal Impressions

Document ID: 2193
Revision: 1
Effective Date: 1/4/2016
Status: Retired
Page 3 of 4

Approved by Director: Dr. Guy Vallaro

7. If a dry seal device(s) is submitted, its condition should be noted (for example, clean, dirty, worn, damaged).
 - 1) Note, when applicable, class characteristics (for example, typeface design and size).
 - 2) Note any visible features that reproduced on the impression.
 - 3) Prepare appropriate specimens, as needed.
8. Determine if any of the Known exemplar impressions are suitable for comparison. If none of the Known exemplar impressions are suitable for comparison and no others are obtained, discontinue these procedures and report accordingly.
9. Conduct a side-by-side comparison of the Questioned impressions, or the Questioned impression to the Known impressions and/or to the dry seal device(s).
10. Compare class characteristics (for example, impression format, typeface design, other present designs and relative sizes). If different, discontinue and report accordingly.
11. Compare individualizing characteristics in common such as wear and damage defects, embossment variation patterns.
12. Evaluate similarities, differences, and limitations. Determine their significance individually and in combination. Once the evaluation has been completed, the examiner should be able to reach a conclusion and report accordingly.
13. Once examinations and evaluations have been completed, reports may include the following types of conclusion(s), opinion(s), or finding(s):
 - 1) **Identification**—When the examination reveals no significant, inexplicable differences between two or more items, and there is agreement in all individualizing characteristics, an identification is appropriate (that is, compared impressions or compared impression and dry seal contain substantial significant similarities; there are no significant, inexplicable differences; and no limitations associated with absent characteristics; and any possibility of a duplicate dry seal can be eliminated).
 - 2) **Elimination**—If significant, inexplicable differences between two or more items are found at any level of the analyses, an elimination is appropriate (that is, the impressions contain substantial significant differences). There may be similarities, but the presence of differences is used to reach the elimination conclusion.
 - 3) **Qualified Opinions**—When there are limiting factors and the examination reveals similarities or differences of limited significance between two or more items, the use of qualified opinions can be appropriate (that is, the impressions or observed features contain limited similarities or differences; or limitations associated with absent characters,

QD SOP-14 Procedure for Examination of Dry Seal Impressions

Document ID: 2193
Revision: 1
Effective Date: 1/4/2016
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Page 4 of 4

individualizing characteristics, or distorted impressions are present; or a combination of these). Qualified opinions require explanation of the limiting factors.

- 4) **No Conclusion/Inconclusive**—When there are significant limiting factors, and the examination reveals no significant similarities or significant differences, a report that no conclusion can be reached is appropriate (that is, the impressions or observed features contain insufficient significant similarities and insufficient differences). This opinion requires explanation of the limiting factors in the report and case notes.

Sources of Error: Not applicable

References:

SWGDOC Standard for Examination of Dry Seal Impressions ver. 2013-1