Purpose: Procedure for Examination of Altered Documents

This procedure provides guidance for examinations involving altered documents that are of Questioned nature. These procedures include evaluation of the sufficiency of the material available for examination.

Items submitted for examination may have inherent limitations that can interfere with the methods in this procedure. These limitations should be noted and recorded on worksheet and/or in case notes. (Quality Record DOC-2). Limitations can be due to submission of non-original documents, limited comparability, or condition of the items submitted for examination (for example, items that are stained, soiled, water-damaged, charred, or shredded).

Responsibility: Forensic Science Examiners assigned to the Unit or conducting 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. Video Spectral Comparators
4. Electrostatic Detection Apparatus
5. Measuring devices
3. Scanners
4. Cameras

Procedure:

The Questioned Document Unit will usually be the first Unit to receive document-type evidence for analysis. In the event that another Unit examined this evidence first, it should be understood that there may be analysis methods that may limit the examination of handwriting on these documents. Prior handling, testing, or chemical processing (for example, for latent prints) or swabbing of a document may interfere with the ability of the examiner to see certain characteristics.

1. Beginning of examination: Refer to QD SOP-3 for guidance on transferring, LIMS documentation and evidence identification.

2. All examination steps, relevant observations, and results shall be documented on QR-DOC-2 and/or case notes. If the examiner notes that the submitted evidence is of limited quality or quantity, the examiner or Case Management Unit may need to contact the submitting agency to acquire more evidence. If it is noted that the evidence received has been handled or chemically

treated that limits or prevents the examination, the submitting agency may be contacted to communicate this information. (see GL20)

3. During the examination procedure, the examiner may use different types of lighting and magnification (such as stereomicroscopes) to examine the documents and any alterations present on the documents. The documents may be scanned or photographed to preserve the alterations or other noted features and for incorporation into the case notes.

4. At various points in these procedures, if the examiner determines that a particular feature is not present or that an item is lacking in quality or comparability may 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. The reasons for such a decision shall be documented on Quality Record DOC-2 and/or in the case notes.

5. Examine the document for the presence of characteristics indicative of alterations. These can include, but are not limited to, the following:
   1) Overwriting,
   2) Characteristics of multiple writing instruments,
   3) Crowded or awkward placement of writing and/or printed text,
   4) Paper fiber disturbance,
   5) Use of different fonts, sizes, and/or styles,
   6) Area(s) of discoloration,
   7) Presence of an obscuring substance,
   8) Smearing,
   9) Uneven margins,
   10) Different printing processes,
   11) Irregular spacing and alignment, both vertical and horizontal,
   12) Differences in fastening and binding mark,
   13) Inconsistent handwriting features,
   14) Unusual sequence of line intersections contrary to what may be claimed, and
   15) Variations in paper characteristics.

   Care must be taken in the evaluation of the following characteristics present on the documents since these characteristics may occur in the normal preparation, handling, and storage of the document.

Non-Destructive Examination Methods

1. Non-destructive procedures shall be performed when applicable depending on the evidence presented.

2. Examine the document macroscopically, or microscopically, or both.

3. Examine the document using various lighting techniques, such as side lighting and transmitted lighting.

4. Examine the document using visualizing techniques such as UV, IR, and IRL.

    1) If the examiner is using the VSC4, a control shall be created and examined using the VSC4, the result of the control check will be recorded on the day of examination. The control is created by using two different brand type pens of the same color ink. The expected result should be that the two inks fluoresce at different wavelengths. If the expected result is achieved, this will be marked off on DOC-2 as the control was okay.

        If the control does not function correctly, the created control will be evaluated if it was made correctly. If the control was made correctly, the VSC-4 equipment shall be taken out of service pending repair and re-validated before use.

    2) If the examiner is using the VSC8000, the examiner will run control checks on the days of use using the provided Standards. The examiner will indicate on DOC-2 if the control checks performed as expected. See QD SOP-9 Appendix 1 for additional guidance on maintenance schedule and control checks.

        The VSC8000 has the ability to measure items in a document. The calibration of the measurement function should be done on days of use and it will be calibrated to a NIST measuring device (ruler).

        If the control checks do not function correctly, the VSC8000 shall be taken out of service pending repair and re-validated before use.

5. Document any alterations with notes and photographs. Measurements of alterations or other significant features will be taken and added to the case notes.

6. The document should be processed with the ESDA.

1) When using the ESDA, a control shall be created and run on the day of use with each case. The control is made by folding a piece of paper in half and writing on the exterior side of the fold. Indented writing will be located on this document when unfolded. A successful control check will be the development of this indented writing on the document. If the expected result is achieved, this will be marked off on DOC-2 as the control was okay.

2) After completion of the ESDA method on the evidence, any further characteristics/features that were developed should be documented with imaging techniques and in the case notes.

If the control check does not function correctly, the ESDA shall be taken out of service pending repair and re-validated before use.

7. Analyze, compare, and evaluate the findings.

8. Determine the need for destructive examinations. If further processing is not needed, the examiner may stop at this step and proceed to evaluate the conclusion(s), and generate a report based on their findings and opinions.

Destructive Examination Methods

1. Destructive examination methods should only be commenced once it is determined that no testing by other Units of the Laboratory is needed. If testing is needed by the other Units, the evidence should be processed by those Units first and then returned to the Questioned Document Unit to complete the analysis.

2. Depending on the destructive examination method that might be used, a consumption issue may be present if an arrest has been made in the case. Case management will be asked to follow up with the submitting agency to determine if an arrest has been made in the case. If an arrest has been made, Case Management shall be notified to process a "Consumption Notification" and no testing can be completed until a response has been received or the consumption notification grace period has passed. If no arrest has been made, destructive examination methods may proceed.

3. Prior to using these techniques, the item(s) should be appropriately documented on QR-DOC-2. These destructive techniques need not be performed in the order given.

4. Where an obscuring substance is present, use a solvent may be used to make the paper translucent for visualization of any obscured entry(s). Exposure to these chemicals should be limited since over exposure may affect the obscuring substance and substrate. The solvent used will be documented on the worksheet and if possible, an area away from the alteration should be tested with the solvent prior to proceeding with using on the questioned area.

5. Physically remove (for example, abrade, scrape, or peel) the obscuring substance from the document.

6. Chemical ink examinations may be referred to the Chemistry Section.

7. Analyze, compare, and evaluate the findings.

8. If further processing is not needed, the examiner may stop at this step and proceed to evaluate the conclusion(s), and generate a report based on their findings and opinions.

Report:

1. Once the examinations and evaluations have been completed, reports may include one or more of the following types of conclusion(s), opinion(s), and other finding(s):
   1) Whether alterations were observed.
   2) Whether any of the altered entries were decipherable.
   3) The text or description of altered entries.
   4) Method or sequence of alterations.
   5) Images of alterations and original entries.
   6) Other information about the alterations.
2. Images may be inserted into the report to provide clarification or information to the submitting agency.

Sources of Error: Not applicable

References: SWGDOC Standard for Examination of Altered Documents ver. 2013-1

Appendix 1: VSC8000

Days of Use:

Using the provided "Standards Document", a control check will be done on the days of use. The Standards Document has the following images which will be used for control checks:

EXHIBIT TWO

EXHIBIT THREE

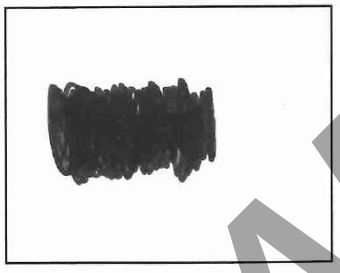
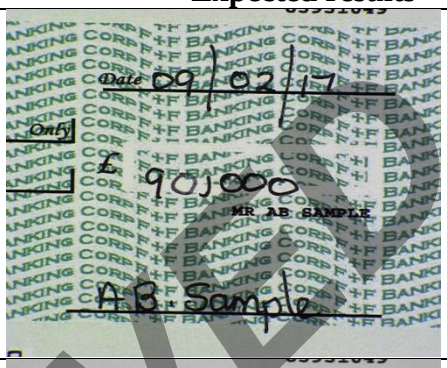
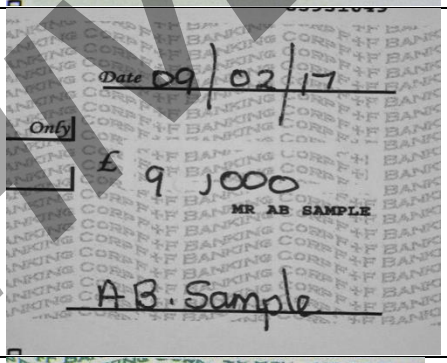
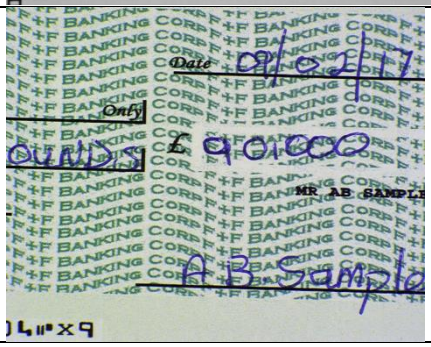
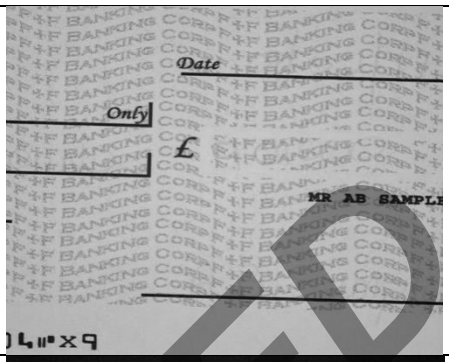
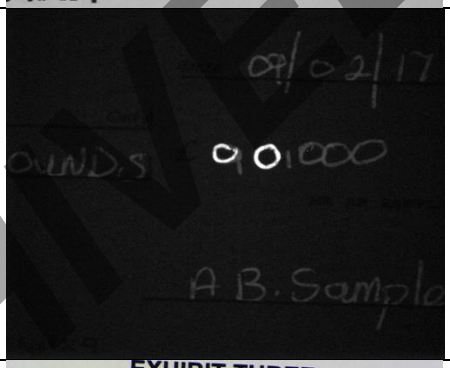
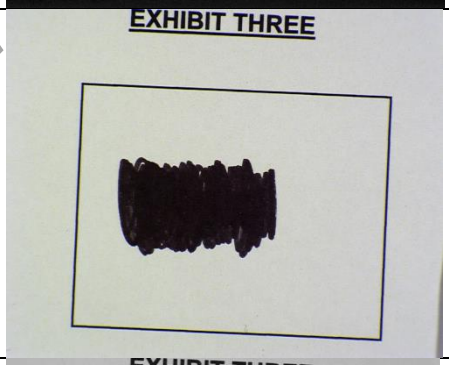
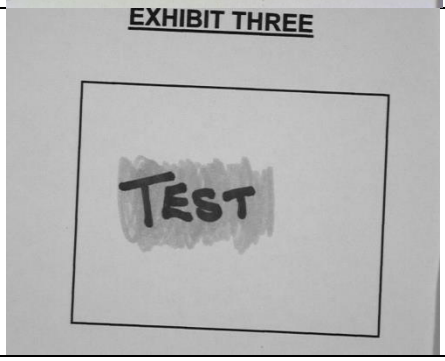
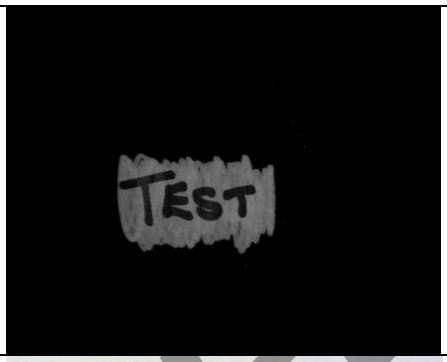
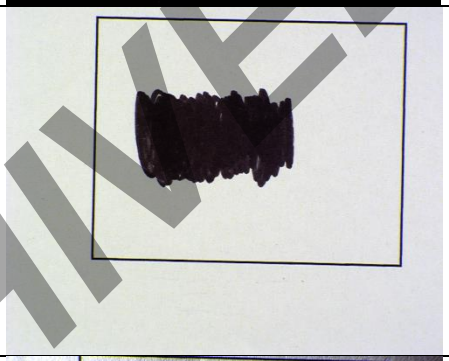
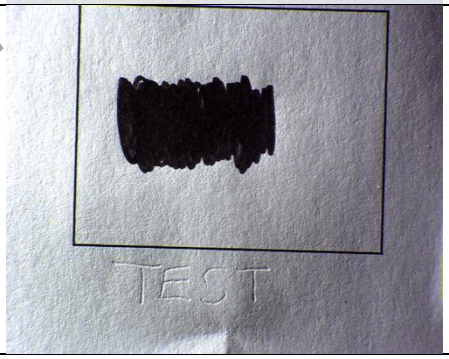


Exhibit Four – indented writing with the word "Test"

Control Check performed on Days of Use:

Exhibit Number	Setting/lighting to use	Expected results
1	viewed under flood light	
1	viewed under flood light using the 725 nm filter (IR)	
2	viewed under flood light	

2	viewed under flood light using the 725 nm filter (IR)	
2	viewed under spot light (605-730 nm) using the 830 nm filter (IRL)	
3	viewed under flood light	
3	viewed under flood light using the 725 nm filter (IR)	

3	viewed under spot light (605-730 nm) using the 830 nm filter (IRL)	
4	is viewed under flood light	
4	viewed under side light	

On days of use, the spectrometer will also be checked using the white standard on the Didymium Oxide Filter (VSC Calibrator). The expected reading should be a straight line along the base of the graph indicating 0% transmittance.

After running all the control checks, the VSC-8000 controls okay box will be checked off on QD DOC-2.

Twice a Year:

- A full diagnostic scan will be conducted and the results will be printed and placed into a logbook. The date, initials of the examiner conducting the check and the results will be indicated on the QR-VSC8000 Check sheet.
- White balance will be conducted using a white sheet of paper. The date, initials of the examiner conducting the check and the results will be indicated on the QR-VSC8000 Check sheet.
- Spectrometer will be checked using the didymium oxide filter (VSC Calibrator) and the white square standard. The date, initials of the examiner conducting the check and the results will be indicated on the QR-VSC8000 Check sheet.
- The UV light ((365 nm – blue, 312 nm – red, 254 nm – yellow) and the anti-stokes (green) will be checked using the VSC Calibrator. The date, initials of the examiner conducting the check and the results will be indicated on the QR-VSC8000 Check sheet.

Biannual	Setting/lighting to use	Expected results
Diagnostic Scan	Auto run that will check the various functions of the instrument including: motor, lamp, filter of camera and spot.	Pass
White Balance	Calibration using a white paper.	Calibration successful
Spectrometer Check	Spectrometer reading of didymium oxide filter WCT-DD-02c	Expected results should appear similar to Figure 1 (below)
Spectrometer Check white standard	Spectrometer reading of didymium oxide filter white standard	Expected result should be a line along the base of the graph
UV Light Check	365 nm	Blue fluorescence
UV Light Check	312 nm	Red fluorescence
UV Light Check	254 nm	Yellow fluorescence
Anti-Stokes	Anti-stoke setting	Green fluorescence

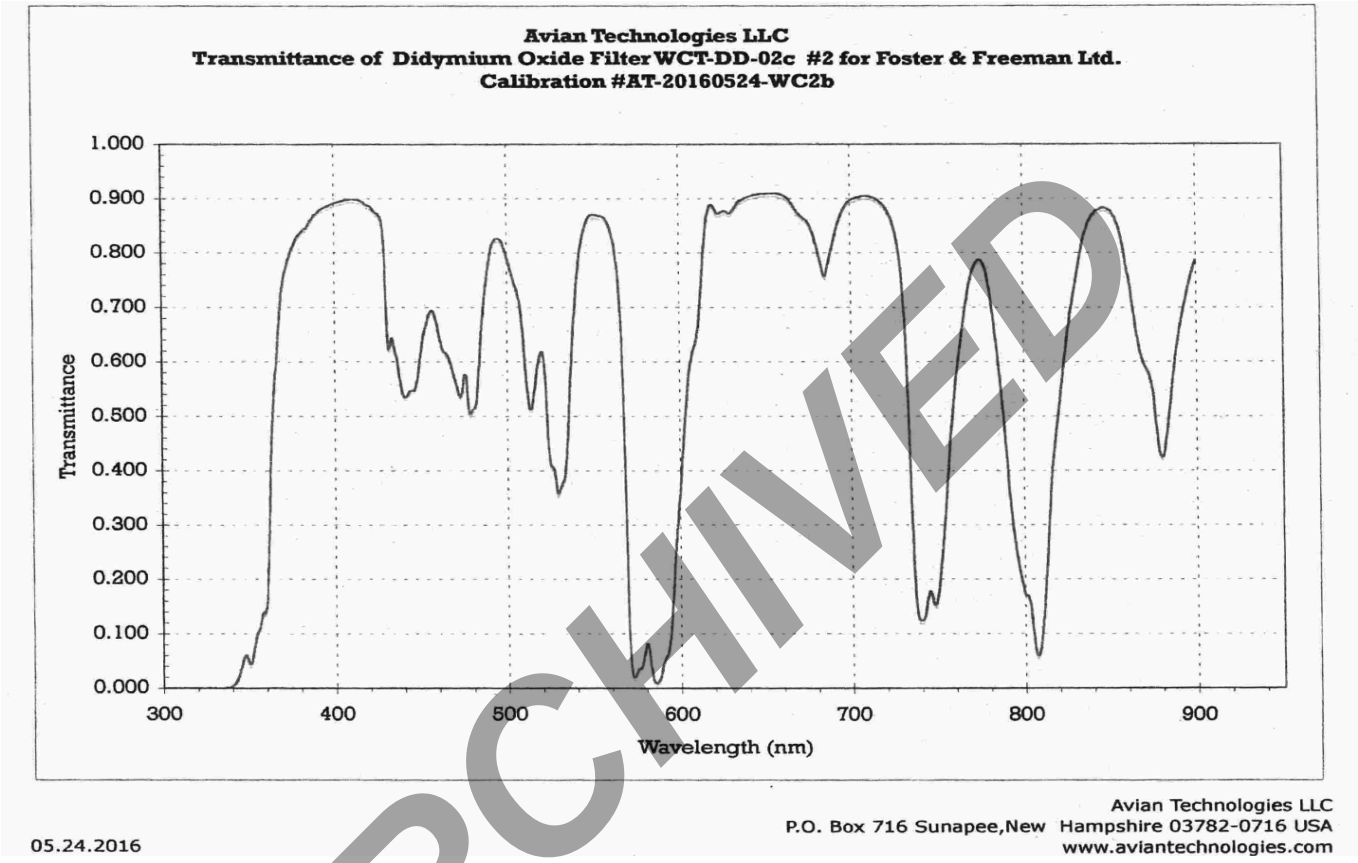


Figure 1: Spectrometer expected results