SAN DIEGO POLICE DEPARTMENT
CRIME LABORATORY

Questioned Documents Unit Manual

Approved By: Chelsea Carter, Supervising Criminalist

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1.1 INTRODUCTION

UNIT DESCRIPTION

Office hours are based on an alternative work schedule and generally run from 0900 to 1830 hours. Staffing currently consists of one (1) full-time Document Examiner. The examiner is trained in laboratory analyses of document related materials. This is a civilian position.

UNIT FUNCTIONS

The unit is responsible for examining physical evidence inherent in questioned documents, drawing conclusions about source, authenticity, custody, and content, and issuing technical reports stating findings.

The examiner also gives expert testimony in court demonstrating examination results.

2.1 WORK REQUESTS

A work request is initially processed through the Clerical Unit and entered into the laboratory's work request database before it is distributed to the Supervisor. The Supervisor is in charge of verifying that request and assigning it to an examiner through LabLynx.

2.2 CASE ASSIGNMENT

Incoming cases are examined by the unit in order of priority, and then by date received. When a document examiner is ready for a new case, the examiner will take the next case in priority.

If an examiner is already at work on a case when a higher priority case is submitted, the lower priority case will be repackaged and put away until the higher priority case is completed.

2.3 CASE TRACKING

All requests are logged into the laboratory computer database by the Clerical Unit.

Unit case statistics (completed cases, backlogged cases, etc.) are available upon request.

Case assignment and completion are tracked by the unit supervisor with the dates being entered into the laboratory case tracking database, LabLynx.

2.4 RECEIVING EVIDENCE

Evidence may reach the Documents Unit by the following routes:

1. The evidence can be impounded in the Property Room and received by the examiner.

2. A requesting officer can submit evidence directly to the examiner during walk-in examinations.

3. Direct transfers other than walk-ins.

Due to the importance of chain-of-custody, evidence submitted through inter-office mail will not be accepted. It will be routed back to the detective.

3.1 ELECTROSTATIC DETECTION APPARATUS

INTRODUCTION

The ESDA (Electrostatic Detection Apparatus) is used to detect indented writing (latent impressions) on documents.

PROCEDURE

The evidence will be evaluated for feasibility of success in an ESDA examination. It would be unsuitable if it were on thick or coated paper, or if it were in a damaged condition such as being crumpled or water damaged after the indentations were made. The size and shape of the evidence may also make it unsuitable (for example, items larger than the bed of the ESDA).The evidence would be considered suitable for ESDA examination if it were on light weight paper without coating or damage.

Throughout evidence processing, the instrument must be tested to confirm adequate operating performance. A control bearing indentations and embossings will be processed at the same time as the case evidence. The humidification time is 5 to 15 minutes. A dry run of each document shall precede any humidification run.

Before placing the document on the sintered surface of the vacuum bed, wipe the surface with a dry tissue to remove dust or residual beads.

Before using the humidity chamber, wipe the inside of the lid and the wire rack with a dry tissue to remove excess moisture.

Place the document on the wire rack and close the cover and begin the humidification process.

Handling the document as little as possible, wearing gloves, place the document on the sintered surface and turn on the instrument pump.

Pull the imaging film across the top of the document and cut the film at the trailing end. Make sure to completely cover the document and the vacuum plate.

Gently flatten the film if necessary. Any wrinkles that may form can be removed by gently pulling at the side of the film. Do not touch the surface of the film because this will leave marks on the film.

Hold the back of the corona wand unit with the emitting side downwards and turn on the center "Corona" switch. Pass the wand across the document at least 4 times at a distance of 1-3 inches above the document. Turn the corona unit off and place emitting side down on a non-metallic surface. The corona wire contains a very high voltage so be careful when handling the unit.

Raising the vacuum bed at a slight angle, pour the Cascade Developer beads onto the surface of the imaging film so that the developer flows evenly over the surface of the document. Continue pouring the developer until a suitable image is formed. Retrieve any Cascade Developer from the catch tray by tilting the tray and emptying it into a suitable container such as the Foster

and Freeman canisters. Brush away any excess Cascade Developer beads that may be adhering to the surface.

When the evidence and the control have been processed, and the control shows optimum development, then save this image by sealing the toner on the ESDA lift with a laminating sheet. Peel the backing from a transparent adhesive fixing sheet and starting at one end of the document, carefully place the adhesive film onto the image. Rub softly over the fixing film so that it adheres well to the imaging film. Peel the fixed transparency lift from the vacuum bed and document, best accomplished with the vacuum pump still turned on. Place the lift on any smooth surface such as a whiteboard and work from the center outward to push away any bubbles that may have developed. Trim away the edges of the fixed transparency so no unfixed powder will be present. Turn off the vacuum pump.

The following information must be recorded on the lift:

- Examiner initials
- Barcode
- Date
- Time of humidification

All results, even if apparently negative, shall be preserved by lamination, scanned at 600 dpi, with a photocopy (or print-out from the scan) placed in the note packet..

All ESDA lifts will be treated as evidence.

QUALITY ASSURANCE

A Control which bears indented impressions is processed on the ESDA at the same time as the questioned document. The examiner creates the Control at the time of the examination by folding a small piece of paper in half and writing on one of the outer sides the date, case number, and the examiner's initials. The control is then unfolded and placed on the ESDA vacuum bed such that the inner sides, one embossed and one indented, are facing up. Document the results in the case notes.

A Grayscale Standard will be kept with the ESDA logbook. When the Cascade Developer used for indentation visualization is similar in appearance to the "6" Section of the Grayscale, it will be recharged using the following procedure.

RECHARGING (ADDING TONER TO) DEVELOPER BEADS

Place a funnel into a flask. Tap out a small amount of toner into the funnel. Pour beads into the funnel until the flask is approximately half full. Cap the flask and shake it vigorously to distribute the toner evenly over all of the Developer beads. The vigorous shaking of the glass beads within the glass flask also recharges the beads by triboelectrification. Compare these recharged beads visually to the Grayscale Standard. Repeat the process until the beads match the "3" or "4" Sections of the Standard. Pour these beads into a Cascade Developer canister.

Repeat the above process until all beads in all canisters have been recharged.

NOTE: Overcharged Developer beads will cause a very heavy background development, so it is best to proceed by small increments of added toner.

Recharging will be documented by making an entry in the ESDA logbook and marking the Cascade Developer canisters with initials and date.

COMMENTS

Humidifying documents may cause a reduction in the ability to visualize latent fingerprints. If latent print work is also desired on the questioned document, keep the humidifying time to a minimum, no more than 30 cumulative minutes.

REFERENCES

Waggoner, Lee R. *Use of the Electrostatic Detection Apparatus (ESDA) in Indented Writing Examinations*, unpublished paper

Foster & Freeman LTD., "ESDA Operating Instructions" Foster & Freeman LTD., "Application of the Instrument for the Detection of Indented Writing in Documents"

SWGDOC Standard for Indentation Examinations

SWGDOC Standard for Examination of Altered Documents

SWGDOC Standard for Non-destructive Examination of Paper

3.2 PHYSICAL MATCH OF PAPER CUTS, TEARS, AND PERFORATIONS

The Questioned Documents Unit follows SWGDOC Standard for Physical Match of Paper Cuts, Tears, and Perforations in Forensic Document Examinations.

The evidence will be evaluated for feasibility of success in a physical match examination. It would be unsuitable if it were in a damaged condition such as being crumpled, charred, water-damaged, or chemically processed. The evidence would be considered suitable for physical match examination if it were undamaged.

3.3 DETERMINATION OF DIRECTION OF WRITING INSTRUMENT STROKES

INTRODUCTION

It is important to determine, if possible, the direction of writing instrument strokes in comparative handwriting examinations and also in the determination of line sequence examinations.

APPARATUS

White light source, and possibly other light sources utilizing specific wavelengths such as the ALS and the VSC.

Stereo microscope

Video and/or Digital imaging systems

PROCEDURE

The evidence will be evaluated for feasibility of success in a stroke direction examination. It would be unsuitable if it were on highly porous paper or if the ink were of a low viscosity with a water or solvent base. Damage to the document obscuring the ink with stains, soil, water damage, charring or shredding would make an exam unsuitable. The evidence would be considered suitable for stroke direction examination if it were on an undamaged paper with limited capillary action or written with ink with an oil, glycol, or rubber base.

Criteria to evaluate direction of writing can include examining the paper microscopically for striations, inkless starts, and the placement of media deposits. These characteristics will be documented on the evidence sample prior to comparison to known exemplars.

If the examination of the writing involves a ballpoint type of writing instrument, observe the striations that may be present. The striations will run toward the outside edge of the curve in the direction the pen was moving.
Observe the deposition of excess ink after a change in direction of the pen.
Determine which side of the paper fibers the ink or carbon deposits pile up against (on the side opposite the direction of travel).
Form an opinion, if possible, as to the direction of the strokes.
Incorporate the findings into a document examination report.

CONTROLS

Immediately prior to using the ALS, VSC, or ESDA, run an appropriate control to ensure that the equipment is working properly. The ESDA and VSC will be subject to performance verification testing using appropriate controls. They are 'validated' when they are checked with controls prior to use, and prior to being returned to service after repairs or maintenance. See Quality Assurance in sections 3.7 and 3.8. Document the results in the case notes.

REFERENCES

Osborn, A. S., *Questioned Documents* 2d ed., Boyd Printing Co., Albany, NY, 1929

Conway, J. V. P. *Evidential Documents.* Charles C. Thomas, Springfield Il, 1959

SWGDOC Standard for Test Methods for Forensic Writing Ink Comparison

SWGDOC Standard for Non-destructive Examination of Paper

SWGDOC Standard for Examination of Altered Documents

3.4 EXAMINATION OF HANDWRITTEN ITEMS

The Questioned Documents Unit follows SWGDOC Standard for Examination of Handwritten Items.

For Handwriting Exemplar Collection considerations, see the attachment, SDPD Collecting and Requesting Handwriting Exemplars.

PROCEDURE

The evidence will be evaluated for feasibility of success in a handwriting examination. It would be unsuitable if it were a poor quality photocopy, non-legible writing, writing obscured by stains, soiling, or alteration, without comparable known, not naturally written, of insufficient amount, and with limited individualizing characteristics. The evidence would be considered suitable for a handwriting examination if it were naturally written, of sufficient quality and quantity, and with comparable known writing.

Criteria to aid in the examination of handwriting such as line width variation, tapered beginning and endings, smooth and continuous strokes, and individual characteristics will be documented on the evidence sample prior to comparison to known exemplars.

NOTE TAKING IN HANDWRITING COMPARISON CASES

The five ways in which the Questioned Documents Unit may take notes on a handwriting comparison case are: filling in blanks on the note form; using highlighters to indicate similarities, differences or variations; placing descriptive comments on photocopies of evidence; drawing characteristics; and typing a narrative.

FILLING IN BLANKS

The note forms have sections for case information, sufficiency of evidence evaluation, results, and miscellaneous information which may be filled in by the examiner.

HIGHLIGHTERS

The examiner may use highlighters to indicate similarities, differences or variations on photocopies of documents. The color purple is used to indicate differences or variations. No other color has significance other than as an indicator of similarities.

DESCRIPTIVE COMMENTS

The examiner may choose to write comments on photocopies of evidence. These comments may include microscopic information not visible on the copy, descriptions of characteristics, or any other information the examiner feels is necessary.

DRAWING CHARACTERISTICS

In some cases, the examiner may use a pen, pencil, or highlighter to mark observed handwriting characteristics. The markings may look like geometric shapes or symbols, but are only used to illustrate similarities, differences or variations in the flow and style of compared handwriting. The markings or symbols are not abbreviations and do not provide a prescribed definition.

CONCLUSIONS

Our reports follow the format set in the Quality Manual and may include the following additional subheadings under Opinions and Interpretations:

- Conclusive Findings
- Qualified Findings
- Indications
- Inconclusive Findings

and the possible additional header of 'Requests'.

The Questioned Documents Unit follows SWGDOC Standard Terminology for Expressing Conclusions of Forensic Document Examiners.

For inconclusive findings of "Neither Eliminate Nor Identify (NENI)" or "Indications", the examiner will include a statement in the case notes to explain the limiting factors.

FINAL PACKET REQUIREMENTS

Standard Report

1. Word-processed formal report
2. Documents examination request form from clerical
3. Questioned document note form
4. Copies of evidence on identification and qualified opinions
5. Display materials (optional)
6. Correspondence (optional)
7. Any additional official case documentation (i.e. chain of custody, instrument performance logs -- Sheriff instrumentation only, etc.)

Homicide Report--Requirements Same as Standard Report Except:

1. All evidence must be copied regardless of opinion.
2. All questioned documents which are subject to destructive testing or processing must be photographed or scanned.

All case packets are Technically and Administratively reviewed prior to distribution.

If there is a discrepancy during technical review in regards to the opinions and interpretations, the compromise opinion will be the conclusion with the lesser level of examiner certainty.

DISTRIBUTION

Final packets with notes will be given to the Clerical Unit for report distribution and filing in the main laboratory files.

STATISTICS

Case statistics will be submitted to the supervisor with each completed case. These will include the start date, completion date, and number of examinations.

5.1 ABBREVIATIONS

(With or without Initial Capitalization)

# or No.	number
±	plus or minus
¶	paragraph
Blk	black
BLQ	bad line quality
Bpt	Ballpoint pen
Brdn	bank robbery demand note
CA	common authorship
CDL	Calif. Driver License
Cf	compare
CID	Calif. Identification Card
d-c	due-course (adj. or noun)
difs	differences noted
Dups	duplicates, not notes
elim	eliminate
end	endorsement
Ev ind	evidential indentations
f/b	front and back
face	obverse
GLQ	good line quality
H/hum	humidity
HP	hand printing
HP	highly probable
HW	handwriting
ID	identify
K	known
lm	left message
Ms	Master/Original
MS	maker signature
neg	negative
NENI	neither eliminate nor identify
Orig	original

p/ee	payee
P	probable
Prob	probable
ph	phone
pos	positive
Poss	possibly
Q	questioned
Rdn	robbery demand note
Rec'd	received
req	request
rev	reverse or back
sig	signature
sims	similarities noted
SSN	Social Security Number
TW	typewriting
uv	unexplained variations
vm	voicemail
w/	with
w & w/o	with and without
w	writing