ASCLD/LAB CORRECTIONS TO REMEDIATION RESPONSE

NOVEMBER 2002 INSPECTION

SAN DIEGO SHERIFF'S DEPARTMENT REGIONAL CRIME LABORATORY

June 23, 2003

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May 6, 2003

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Dear Don:

Thank you for your letter dated April 22, 2003, forwarding the remediation report, and for forwarding a copy of the report to each member of the inspection team. The team has completed its review of the report and the following comments are provided on each of the criteria identified in the report:

1.1.2.5: The procedure for storage, security and disposition of case records that was added to the Crime Laboratory Manual satisfactorily addresses the finding. Implementation of the procedure will be reviewed during a re-visit.

Response: No action is necessary at this time. Implementation of the new procedure will be reviewed during re-inspection.

1.1.2.7: The procedure for conducting and monitoring maintenance of the instruments and equipment that was added to the Latent Print Development Section's Policy and Procedures Manual addresses the finding. The only question is under 9.9.14.7.1, which states, "the operational fitness of each instrument is verified with each use." It is not clear after reviewing other portions of this Procedures Manual how that determination is being made.

Implementation of the procedure will be examined during a re-visit.

Response: We believe that the manual does cover the issue of operational fitness for the VMD. Language has been added to the manual to clarify this issue for the ALS. See the following for an explanation of this issue:

1. VMD.

The determination of operational fitness for the VMD is indicated in Section 9.9.14.7.1 ("Instrumental Development of Impression Evidence") as follows:

- Step 6 reads, "Add positive control card(s)."
- Step 18 reads, "View the positive control card and immediately close the shutters when test card BEGINS to darken."
- Step 21 reads, "To vent the chamber, place the RUN/STOP/VENT switch to VENT. Unclamp the door latches and examine the positive control card and evidence."
- "Notes" section reads, "Each use of the VMD should be documented in the user's log located by the machine."
- "VMD Chamber Maintenance" section reads, "Confirm and document proper VMD operation during each use cycle: a) Record operational information in the VMD 'Use and Maintenance Log' and b) In the event instrument maintenance is required, refer to the 'Use and Maintenance Log' for contact information."

2. ALS.

The determination of operational fitness for the ALS is indicated in Section 9.9.14.7.1 ("Instrumental Development of Impression Evidence") and in the "Positive Control" section of the "Reagent/Process Quality Assurance Sample Preparation and Procedures" manual:

- Instrumental Development of Impression Evidence/Alternate Light Source (ALS): "For ALS, see Reagent/Process Quality Assurance Sample Preparation and Procedures – 'Cyanoacrylate Ester Residues' in the Latent Print Development Section's Chemical Processing Manual. Any defective performance will be immediately reported to the Section Lead or Supervising Criminalist so appropriate corrective actions can be arranged."
- Chemical Processing Manual/Cyanoacrylate Ester Residues: "To validate the reagents, equipment operability and methods used to dye-stain cyanoacrylate ester developed impressions. To satisfy this requirement, test squares containing previously superglued impressions will be prepared and processed according to the method being evaluated."
- Cyanoacrylate Ester Residues/Steps for Evaluating Prepared Test Squares, Step 5: "Evaluate and record the test results in the User's/Maintenance Log for the ALS and in the examiner's case notes."

3. VMD/ALS.

Section 9.9.14.6.1 ("Quality Control/Quality Assurance") of the Latent Print Development Section Manual has been modified to read:

"Positive controls will be performed prior to any evidence processing as detailed in the Reagent/Process Quality Assurance Sample Preparation and Procedures located in the Latent Print Development Chemical Processing Manual. However, examiners utilizing the Vacuum Metal Deposition and Cyanoacrylate Fuming will perform the positive control at the same time as the evidence processing. See appropriate methods for further details."

1.3.3.1: The revisions to the three training programs identify scores that must be met, but do not identify the composition of the tests. For example, in controlled substances, how many qualifying

samples and of what composition? In latent prints, how many comparisons? In latent print development, what will the practical competency test be composed of?

Response: The Controlled Substances, ALPS, and Latent Print Development manuals have been modified to clarify this issue as follows:

1. Controlled Substances.

Section 9.4.12 ("Training Outline/Introduction/Paragraph 4") of the Controlled Substance Analysis Manual has been modified to read:

"The training program provided for training drug analysts by the San Diego Sheriff's Crime Laboratory includes formal lectures, assigned readings, observing actual case work, practice sample work, observation of courtroom testimony, moot court, analysis of qualifying samples, and a written final examination. The marijuana qualifying tests are comprised of a minimum of 10 samples with at least 50% containing marijuana. The controlled substances qualifying tests are comprised of a minimum of 20 samples of which at least 50% contain one or more controlled substances as defined by the California Health and Safety Code. The written examination for marijuana is comprised of at least 15 questions covering analytical and legal questions pertaining to marijuana as defined in the California Health and Safety Code. The written examination for controlled substances is comprised of at least 30 questions covering analytical and legal questions pertaining to controlled substances as defined in the California Health and Safety Code. The trainee must correctly identify all qualifying samples (an answer of "No Controlled Substances Detected" is correct if no substances regulated under the California Health and Safety Code are present in the sample) and score an 80% or higher on the written exam in order to begin performing casework."

2. ALPS.

Section 9.9.12.8 ("Completion of Training") of the ALPS Section Manual has been modified to read:

- A written examination with a passing score of 70 percent or better. The written test is composed of 50 true/false, multiple choice, and fill in questions, which cover latent print history, development, and identification.
- A competency comparison test of known prints to latent prints with a passing score of 100 percent. This test requires the examiner to compare ten (10) latent prints to five (5) sets of known prints consisting of finger and palm prints.
- A moot court with a passing score (pass/fail). The moot court is composed of a role-playing judge, prosecutor, defense attorney, and jury. The examiner is questioned about the history of fingerprints, latent print processing procedures, his or her qualifications, and other issues dealing with latent print development and examination.

3. Latent Print Development.

Section 9.9.14.12.1 ("Training/Latent Print Development Training Program") of the Latent Print Development Section Manual has been modified to read:

"Practical competency test where the examiner will receive mock case evidence items consisting of not less than five (5) items which have been exposed to/contaminated with latent prints, including at least one item with no latent print residue. Items will consist of porous, non-porous, sticky-side substances, and combination surfaces. The items will be processed following the Latent Print Development Section Policy and Procedure Manual. Successful completion of this test will be based on the trainer's evaluation of the notes and results produced by the examiner."

The documented training program prepared for Forensic Evidence Technicians satisfactorily addresses the finding (please note that appendices F and Y have been inserted in the wrong places in the package).

Response: No action is necessary. This finding has been resolved. (Also, reversal of appendices F and Y in the remediation report is acknowledged.)

1.4.1.3: The new procedures for sealing evidence being sent to the contractor appear to satisfactorily address the finding. Implementation of the procedure will be reviewed during a re-visit.

Response: No action is necessary at this time. Implementation of the new procedure will be reviewed during re-inspection.

1.4.2.4: The manual revision revising the procedure for conducting the annual review of the quality system was not provided; therefore, it cannot be determined from reviewing the remediation package whether what was done meets the requirements of the Crime Laboratory Manual.

Response: The Quality Assurance Manual has been revised, and a copy of the section of the manual that deals with this issue is attached to this report (words in italics indicate new or revised language in the manual). See Appendix 1.

1.4.2.7: The revisions to the Questioned Documents Procedure Manual resolve that portion of the finding.

Response: No action is necessary. This finding has been resolved.

1.4.2.7: The addition to the ALPS Section Manual, while appearing to be technically sound, is apparently a copy of a SWGFAST document and includes the wording "Draft for Comment." Whereas you may wish to adopt procedures recommended by SWGFAST, those procedures should be clearly established as your laboratory procedures. Use of a document that is identified as "Draft for Comment" does not appear advisable.

Response: The "SWGFAST Draft for Comment" document has been rewritten and is now an SDSO Crime Laboratory document. Also, no references to "draft" appear in the document. See Appendix 2.

Regarding the last paragraph in the remediation, the wording of Latent Print Development Section's Policy and Procedure Manual, 9.9.14.5.2, fourth paragraph, the requirement of single use reagents ("containers need only be identified as to contents and initials….") raises questions about non-

compliance with criterion 1.4.2.8 because there is no indication of the use and documentation of appropriate controls; please explain further.

Response: Section 9.9.14.5.2 ("Reagents – Policies, Procedures, Protocols") of the Latent Print Development Section Manual has been modified to read:

"Each time a new reagent with extended use life is prepared, the reagent will be labeled with the identity of the reagent, the date of preparation and expiration, and the initials of the individual who prepared and validated the reagent. The individual who prepares and tests extended use reagents will complete the Reagent Validation Log. In the case where reagents are prepared for single use situations, the individual who prepared the reagent will complete the Reagent Validation Log. Any excess reagent will be disposed of according to the laboratory safety policy."

1.4.2.8: The following comments and suggestions are provided regarding the information that is provided as Appendix L of the remediation documentation:

Response: To correct the issues described in 1.4.2.8 (1), 1.4.2.8 (2), 1.4.2.8 (3), and 1.4.2.8 (4), the Chemical Processing Manual was reorganized and rewritten. The Chemical Processing Manual previously consisted of two sections: "Reagent/Process Quality Assurance Sample Preparation" and "Reagent/Process Quality Assurance Procedures." These two sections have been combined into one section, which is called, "Reagent/Process Quality Assurance Sample Preparation and Procedures (Positive Controls)." See Appendix 3 for a copy of the new Chemical Processing Manual (words in italics indicate new or revised language in the manual). Comments specific to the inspectors' comments are found below under each of the four criteria sections.

1.4.2.8: (1) The page identified as 90, "Sebaceous Materials" appears to be a procedure for a test print on adhesive surfaces, not a procedure for sebaceous material.

The correct procedure for testing impressions that contain sebaceous materials is found in Section 3 ("Lipids, Fats, Oils, Greases") of the new Chemical Processing Manual. See Appendix 3.

1.4.2.8: (2) The page identified as 91, "Bloody Components" does not contain any requirements for documenting the preparation of the Test Cards, nor a description of how the Test Cards are to be documented in the case record.

The revised procedure for testing impressions that contain bloody components is found in Section 2 ("Bloody Components") of the new Chemical Processing Manual. This section describes requirements for the preparation of the Test Cards, as well as a description of how the Test Cards are documented in the case record ("Reagent Validation Log"). See Appendix 3.

1.4.2.8: (3) The page identified as 95, "Apocrine Materials" does not contain a requirement for documenting the source and verification of the alanine and beef bouillon. The procedure refers to "previously validated materials" but does not specify how they are to be validated. Also, the apocrine glands do not secrete amino acids; they are secreted by the eccrine glands.

The revised procedure for testing impressions that contain apocrine materials is found in Section 1 (“Amino Acids/Proteins”) of the new Chemical Processing Manual. This section describes the requirement for documenting the source and verification of the test material and describes the procedure that must be followed to validate the test material. Also, the reference to amino acid secretion by the apocrine glands has been corrected. See Appendix 3.

1.4.2.8: (4) The pages identified as 98 and 99 do contain requirements to record test results, but no guidelines are identified as to how this is to be accomplished.

Each section of the new Chemical Processing Manual contains guidelines describing the requirement to record test results. See Appendix 3.

1.4.2.10: The effectiveness of the action taken will be examined during a re-visit.

Response: No action is necessary at this time. Effectiveness of the plan will be reviewed during re-inspection.

1.4.2.12: The action taken satisfactorily addresses the finding.

Response: No action is necessary. This finding has been resolved.

1.4.2.13: The actions taken appear to satisfactorily address the findings. This will be further examined during a re-visit.

Response: No action is necessary at this time. Effectiveness of the plan will be reviewed during re-inspection.

1.4.2.14: (1) The effectiveness of the corrective action regarding the condition of package sealing recorded in Questioned Documents case notes will be examined during a re-visit.

Response: No action is necessary at this time. Effectiveness of the plan will be reviewed during re-inspection.

1.4.2.14: (2) The effectiveness of the corrective action regarding conclusions reported in hair analysis cases will be examined during a re-visit.

Response: No action is necessary at this time. Effectiveness of the plan will be reviewed during re-inspection.

1.4.2.14: (3) The actions taken should prevent the problem from reoccurring in the future. This will be examined during a re-visit. Was any action taken with the case that was reviewed during the original inspection to revise the notes and/or conclusions? Also, it is noted that the Glossary that is being used is identified as “SWGFAST Glossary of Identification”. It is suggested that any glossary that is used be identified as a SDCSCL glossary.

Response: “Report” issue—an “Amended Case Record” has been written to correct the original case record. The amended case record will be available for review at the time of

the re-visit, or sooner, if desired.

"Glossary" issue—the "SWGFAST Glossary of Identification" document has been rewritten and is now an SDSO Crime Laboratory document. See Appendix 4.

1.4.2.14: (4) Although the past procedure of reporting forensic alcohol results is not being followed, the remediation report did not give a clear example of the current reporting format. It cannot be determined from the information that has been provided whether this finding has been fully resolved.

Response: An example of the current reporting format is attached to this document. See Appendix 5.

1.4.2.14: (5) The effectiveness of the action taken to resolve the problem of corrections to case notes being made by the Forensic Alcohol Section by other than initialed single-line strikeouts will be examined during a re-visit.

Response: No action is necessary at this time. Effectiveness of the plan will be reviewed during re-inspection.

1.4.2.16: The action taken resolves the problem that was observed during the original inspection with a case being technically reviewed by a trainee.

Response: No action is necessary. This finding has been resolved.

1.4.2.19: The remediation reported for this finding is a procedure that is not identified in the quality manual version that was provided prior to the original inspection and a new version was not included in the remediation package. Has the manual been revised?

Response: The Quality Assurance Manual has been revised, and a copy of the section of the manual that deals with this issue is attached to this report (words in italics indicate new or revised language in the manual). See Appendix 6.

1.4.3.4: Although the remediation that is stated indicates that subdiscipline testing will be performed in accordance with Section 7.13.3 of the Crime Laboratory Manual, that section only discusses proficiency testing in disciplines and does not address subdisciplines. This Important (not an Essential) criterion still appears to be No.

Response: The laboratory will comply with proficiency testing policy as outlined in Section 7.13.3 ("Proficiency Testing Program") of the Crime Laboratory Manual, which states that

"Each examiner must complete a proficiency test in each DISCIPLINE that the examiner performs testing in. The examiner will use proficiency tests from an approved external test provider if such tests are available. If no external proficiency test is available, the examiner must complete a proficiency test obtained from another source (for example, a test prepared by the laboratory's Quality Assurance Manager).

We will ATTEMPT to comply with ASCLD Criterion 1.4.3.4, which states that each examiner should be proficiency tested annually in each SUBDISCIPLINE in which

casework is performed. However, we may not be able to comply with this standard in each case, so we will accept a “No” score for this Important (not Essential) criterion.

1.4.3.5: This Important criterion will remain No.

Response: The laboratory will accept a “No” score for this Important (not Essential) criterion.

2.9.4: The proficiency test requirements established for Forensic Evidence Technicians who perform presumptive blood tests and collection of blood, as described under Appendix F, appear to resolve this finding; however, actual proficiency test records for these technical support personnel will have to be reviewed in order to fully resolve the finding.

Response: No action is necessary at this time. Proficiency test records will be reviewed during the re-inspection.

Thank you for preparing such an organized remediation package that helped to facilitate the review. Please provide additional information as appropriate.

Sincerely,

Richard S. Frank

cc: Ralph Keaton, ASCLD/LAB Executive Director
Frank Fitzpatrick, ASCLD/LAB Board Coordinator
Each inspector
Kathy Wagner, SDCSCL Quality Manager

APPENDIX 1

ASCLD/LAB STANDARDS AND CRITERIA 1.4.2.4 (E)

7.20.1 Quality System Review Team

To comply with the quality system review requirement, the laboratory may use either an external review system, where the team members are individuals from cooperating crime laboratories, or an internal review consisting of members of the laboratory's own Executive Management Team (EMT). In either case, the quality system review team will use a checklist and examine the records, documents, and policies of each area of interest of the quality system and compare them to the actual practices of the laboratory. A report is

generated and kept on file with the Quality Assurance Manager.

The quality system review is scheduled and announced well in advance of the event.

APPENDIX 2

ASCLD/LAB STANDARDS AND CRITERIA 1.4.2.7 (E)

9.9.6.1 San Diego Sheriff's Crime Lab Friction Ridge Examination Methodology for Latent Print Examiners

Goal

To describe a method for friction ridge examinations and the bases for conclusions.

Objectives

1. Establish principles by which examinations are conducted.

2. Establish a method for friction ridge examination.

3. Establish the conclusions that may result from an examination.

Fundamental principles for friction ridge examinations by a latent print examiner, trained to competency:

1. The morphology of friction ridge skin is unique.

2. The arrangement of friction ridges is permanent barring trauma to the basal layer of the epidermis.

3. An impression of the unique details of friction ridge skin can be transferred during contact with a surface.

4. An impression that contains sufficient quality and quantity of friction ridge detail can be individualized to, or excluded from, a source.

5. Sufficiency is the examiner's determination that adequate unique details of the friction skin source area are revealed in the impression.

Levels and uses of friction ridge skin detail for examinations:

1. Level one detail.

    - Overall ridge flow.

    - General morphology (e.g., presence of incipient ridges, overall size).

    - Can be used for pattern interpretation.

    - Can be used to determine anatomical source (i.e., finger, palm, foot, toe) and orientation.

    - Cannot be used alone to individualize.

    - Can be used to exclude under certain circumstances.

2. Level two detail.

    - Individual ridge path.

        - Presence of ridge path deviation (e.g., ridge ending, bifurcation and dot).

        - Absence of ridge path deviation (e.g., continuous ridge).

        - Ridge path morphology (e.g., size and shape).

- Used in conjunction with level one detail to individualize.
- Used in conjunction with level one detail to exclude.

3. Level three detail.
   - Structure of individual ridges.
     - Shape of the ridge.
     - Relative pore position.
   - Other specific friction skin morphology (i.e., secondary creases, ridge breaks. etc.).
   - Used in conjunction with level one and level two detail to individualize.
   - Used in conjunction with level one and level two detail to exclude.
4. Other features associated with friction ridge skin (e.g., creases, scars, warts, paper cuts, blisters).
   - May be permanent or temporary.
   - May exist as level one, two, and three detail.
   - May be used in conjunction with friction ridge detail to individualize or exclude.

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

1. Analysis—analysis is the assessment of a friction ridge impression to determine suitability for comparison. Factors considered include the following:
   - Quality (clarity) and Quantity of detail.
     - Level one detail.
     - Level two detail.
     - Level three detail.
   - Anatomical source (finger, palm, foot, toe).
   - Factors influencing quality include
     - Residue/matrix.
     - Deposition.
     - Surface/substrate.

- Environment.
- Development medium.
- Preservation method.
- Condition of the friction skin.

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

   - 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, determines that two friction ridge impressions originated from the same source, to the exclusion of all others.

   - Exclusion.

     Exclusion is the result of the comparison of two friction ridge impressions containing sufficient quality (clarity) and quantity of friction ridge detail which is not in agreement.

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

   - Inconclusive.

     Inconclusive evaluation results when a latent print examiner, trained to competency, 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.

4. Verification—verification is the independent examination by another qualified examiner resulting in the same conclusion.

   - All individualizations (identifications) must be verified.
   - Exclusion or inconclusive results may be verified.

[The San Diego Sheriff's Crime Laboratory ALPS Section follows the SWGFAST Friction Ridge Examination Methodology for Latent Print Examiners, updated May 23, 2002.]

APPENDIX 3

ASCLD/LAB STANDARDS AND CRITERIA
1.4.2.8 (E)

General Comments

A known positive control print is used to ensure that proper techniques are followed, *instruments are operable (if applicable),* and that the quality of the reagents being used is adequate for the conditions encountered.

The following methods, for the preparation and use of known-positive impressions, have been evaluated and approved for the Latent Print Development Section's in-process quality assurance:

1. **Amino Acids/Proteins:** Used for reagents such as ninhydrin, DFO or other amino/protein reactive reagents.

Purpose:

To test reagents and methods that enhance impressions composed of amino acid and protein

residues.

Equipment Needed to Perform Procedures:

Known finger impressions *containing amino acids or proteins obtained from individuals*, or dilute solutions of an amino acid or protein mixture, such as *store brand beef bouillon cubes or powder*.

Preparation of Test Impressions:

Mix beef bouillon cube or powder with water. This mixture should have the consistency of thin paint.

Dip fingers in beef bouillon mixture.

Manually place finger impression containing amino acid or protein solution on clean, blank paper items (if making paper batch controls) or items with substrate properties similar to the evidence item.

Test the paper items or control item (see guidelines below) and record in the Reagent Validation Log ("Amino Acids/Proteins").

Store the paper items in an envelope, at room temperature, until needed.
Steps for Using Test Impressions:

A. *Apply the reagent to the impressions on the test substrate using the appropriate procedure, detailed in Section 9.9.14.6 of the Latent Print Development Section's Policy and Procedures Manual*.
B. A positive result is indicated by the visualization of developed images on the *item*.
C. Evaluate and record the test results in the examiner's case notes.

Safety Concerns:

Follow the safety procedures for handling the samples, chemicals, and reagents that are being used.
Storage and Location of Chemicals and Solutions:

The processing reagents and *beef bouillon powder or cubes* are stored in the Latent Print Development Chemical Processing Room.

2. **Bloody Components (blood proteins/hemoglobin):** Used for reagents such as Amido Black, Coomassie Blue, Leuco-Crystal Violet, and other blood-reactive reagents.

Purpose:

To validate the reagents and methods used to process blood-contaminated impressions. Test papers containing dilute concentrations of blood are prepared and processed according to the method being evaluated.

Equipment Needed to Prepare Controls:

A. Ten (10) µL pipette.
B. 1.5 ml microtubes.
C. "Whatman" blood cards.

Chemicals Needed for Preparation of Controls:

A. Fifteen (15) µL of mammalian blood.
B. Three thousand (3000) µL of distilled water.

Directions for Preparation of Control Solutions (1.0%, 0.5%, and 0.05%)

1.0% Blood Solution:

A. Place one thousand (1000) µL of distilled water in a microtube.
B. Add ten (10) µL of mammalian blood to the microtube. Mix thoroughly.
C. Store solution in the refrigerator until needed.

0.5% Blood Solution:

A. Place one thousand (1000) µL of distilled water in a microtube.
B. Add five (5) µL of mammalian blood to the microtube. Mix thoroughly.
C. Store solution in the refrigerator until needed.

0.05% Blood Solution:

A. Place one thousand (1000) µL of distilled water in a microtube.
B. Add ten (10) µL of 0.5% blood solution to the microtube. Mix thoroughly.
C. Store solution in the refrigerator until needed.

Procedure for Test Card Preparation:

A. The "Whatman" blood card is divided into four (4) sections. Label the first section as "1%," the second area as "0.5%," the third area as "0.05%," and the fourth area as "Ø."
B. Using the pipette, place ten (10) µL of 1% blood solution on area labeled "1%". Place ten (10) µL of 0.5% blood solution on area labeled "0.5%". Place ten (10) µL of 0.05% blood solution on area labeled "0.05%". Do not put any solution on the area labeled "Ø."
C. Allow the test cards to dry at room temperature.
D. Test the card with a reagent using the guidelines below, and record the test card preparation in the Reagent Validation Log ("Bloody Components Test Cards"), located in the Latent Print Development Chemical Processing Room.
E. Store the cards in an envelope, at room temperature, until needed.

Guidelines for Using Test Cards:

A. For the specific reagent/method being evaluated, follow the *appropriate processing procedures, detailed in Section 9.9.14.6 of the Latent Print Development Section's Policy and Procedures*

Manual.

B. A positive result is indicated by an appropriate color change on the test card in the areas indicated by "1%", "0.5%", and "0.05%" without a corresponding color change in the non-stained "Ø" area of the test card.
C. Evaluate and record the test results in examiner's case notes.
D. If there is no color change in the stained areas, the reagent/method being evaluated is not acceptable for use on casework. The reagent is disposed of according to laboratory safety policy, and a new reagent is prepared.

Safety Concerns:

Follow the safety requirements for the handling of mammalian blood and for the reagents being tested.

Storage and Location of Chemicals and Solutions:

Mammalian blood is stored in a sealed container and refrigerated in the Forensic Biology Section.

Shelf Life:

Mammalian blood – no expiration
Test cards – no expiration
Blood dilutions should be made fresh at the time each new batch of test cards is prepared.

Other Comments:

Test cards are prepared by the Forensic Biology Section laboratory personnel. The date prepared, quantity, person preparing cards, and person testing cards for positive quality control are recorded in the Reagent Validation Log ("Bloody Components Test Cards"), located in the Latent Print Development Chemical Processing Room.

3. <u>Lipids, Fats, Oils, Greases:</u> Used for reagents such as Crystal Violet, Iodine, Physical Developer, Small Particle Reagent, Sticky Side Powder, Sudan Black, and other sebaceous material reactive reagents.

Purpose:

To test reagents and methods that enhance the lipids, fats, oils and grease of sebaceous impressions.

Equipment Needed to Perform Procedures:

Known finger impressions containing components of sebaceous materials.
Suitable substrate item, with surface properties similar to those of the evidence sample.

Preparation of Test:

Place known fingerprint impression, containing sebaceous residues, on the item(s).

Steps for Using Test:

A. *Apply the reagent solution to the fingerprint impression on the item, using the appropriate processing procedure, detailed in Section 9.9.14.6 of the Latent Print Development Section's Policy and Procedures Manual*.
B. *A positive result is indicated by the visualization of fingerprint impression on the item*.
C. *Evaluate and record the test results in the appropriate portion of the Reagent Validation Log (if reagent was prepared for single use), and in the examiner's case notes*.

Safety Concerns:

Follow the safety procedures for handling the samples, chemicals, and reagents being used.

Storage and Location of Chemicals and Solutions:

The reagents are stored in the Latent Print Development Chemical Processing Room.

4. **Water, Chlorides, Sulfates:** Used for reagents such as Dusting Powders, Cyanoacrylate Ester Fuming, Fluorescent Powders, Silver Nitrate, or other liquid and/or dissolved salts reactive reagents.

Purpose:

To test reagents and methods that enhance impressions consisting of water *with both inorganic and organic contaminants*.

Equipment Needed to Perform Procedures:

Known latent impressions *composed of sweat*.
Item with properties similar to evidence item.

Preparation of Test Impressions:

Manually place finger impressions on the test substrate.

Steps for Using Test Impressions:

A. Apply the processing procedure being evaluated, *as detailed in Section 9.9.14.6 of the Latent Print Development Section's Policy and Procedures Manual*, to the impressions on the test substrate.
B. A positive result is indicated by the visualization of developed images on the items.
C. *Evaluate and record the test results in the appropriate portion of the Reagent Validation Log (if reagent was prepared for single use), and in the examiner's case notes*.

Safety Concerns:

Follow the safety procedures for handling the samples, chemicals, and reagents being used.

Storage and Location of Chemicals and Solutions:

The processing reagents are stored in the Latent Print Development Chemical Processing Room.

5. **Cyanoacrylate Ester Residues (Dye Stains):** Used for reagents such as Rhodamine 6G, Ardrox, Basic Yellow, and other Cyanoacrylate Ester reactive reagents.

Purpose:

To validate the reagents, *equipment operability*, and methods used to dye stain cyanoacrylate ester developed impressions. To satisfy this requirement, test squares containing previously superglued impressions are prepared and processed according to the method being evaluated.

Equipment Required:

A. Pieces of plastic.
B. Superglue.
C. Superglue chamber.

Preparation of Test Squares:

A. Place at least one finger impression on each plastic square.
B. Place pieces of plastic in superglue chamber, and process with cyanoacrylate fumes until prints are visible.
C. Remove from superglue chamber and evaluate the results.
D. Test the squares following the steps below, and record in the Reagent Validation Log ("Cyanoacrylate Ester Residues"), located in the Latent Print Development Chemical Processing Room.
E. Store *these positive control cards/squares* in a labeled package in the Latent Print Development Chemical Processing Room.

Steps for Evaluating Prepared Test Squares:

A. Select the dye stain or method to be evaluated.
B. Apply the selected dye stain to the test square prints, and process according to the documented method, *as described in Section 9.9.14.6 of the Latent Print Development Section's Policy and Procedures Manual.*
C. Observe test square with *an* alternate light source.
D. The test is considered positive with the observation of test print fluorescence.
E. Evaluate and record the test results in the User's/Maintenance Log for the ALS and in the examiner's case notes.

Safety Concerns:

Follow the safety requirements for handling the alternate light source, and the chemicals/reagents being used.

Storage and Location of Chemicals and Solutions:

The superglue and the superglue chamber are stored in the Fingerprint Processing Room. The prepared test squares are stored in the Latent Print Development Chemical Processing Room.

Shelf Life:

Prepared cyanoacrylate ester processed latent impressions – no expiration date.

APPENDIX 4

ASCLD/LAB STANDARDS AND CRITERIA 1.4.2.14 (E)

9.9.9.3 Glossary – Identification

ANALYSIS
The methodical examination of friction skin impressions; separation into parts so as to determine the nature of the whole.

ARTIFACT
A structure or substance not normally present, but produced by some external agent or action.

BIFURCATION
The point at which one friction ridge divides into two friction ridges.

CHARACTERISTICS
Features of the friction ridges. Commonly referred to as minutia(e), Galton detail, point, feature, ridge formation, ridge morphology.

CLARITY
Visual quality of a friction ridge impression.

CLASS CHARACTERISTICS
Characteristics used to put things into groups or classes, e.g., arches, loops, whorls.

COMPARISON
The observation of two areas of friction ridge impressions for finding similarities and/or differences.

DISTORTION
Variances in the reproduction of friction skin caused by pressure, movement, force, contact surface, etc.

DOT
An isolated ridge unit whose length approximates its width in size.

EDGEOSCOPY
Study of the morphological characteristics of friction ridges; contour or shape of the edges of friction ridges.

ELASTICITY
The ability of skin to recover from stretching, compression, or distortion.

ELIMINATION PRINTS
Exemplars of friction ridge skin detail of persons known to have had access to the item examined for latent prints.

ENCLOSURE
A single friction ridge that bifurcates and rejoins after a short course and continues as a single friction ridge.

ENDING RIDGE
A single friction ridge that terminates within the friction ridge structure.

ERRONEOUS IDENTIFICATION
The incorrect determination that two areas of friction ridge impressions originated from the same source.

EVALUATION
The determination of the significance, value, or clarity of a friction ridge impression by careful observation and study.

EXEMPLAR
Friction ridge record of an individual, recorded electronically, photographically, by ink or other medium.

EXCLUSION
See Non-identification.

FINGERPRINT
An impression of the friction ridges of all or any part of the finger.

FRICTION RIDGE DETAIL (MORPHOLOGY)

An area comprised of the combination of ridge flow, ridge characteristics, and ridge structure.

FRICTION RIDGE IDENTIFICATION
See Individualization.

FURROWS
Valleys or depressions between the friction ridges.

GALTON DETAILS
Term referring to friction ridge characteristics attributed to the research of English fingerprint pioneer, Sir Francis Galton.

INCIPENT RIDGE
A friction ridge not fully developed which may appear shorter and thinner in appearance than fully developed friction ridges (interstitial, nascent).

INCONCLUSIVE
The inability to either identify (individualize) or exclude an area of friction ridge.

IDENTIFICATION
The determination that corresponding areas of friction ridge impressions originated from the same source to the exclusion of all others (individualization).

INKED PRINT (FINGER, PALM, FOOT)
See Exemplar.

INTERVENING RIDGES
The number of friction ridges between two characteristics.

LATENT PRINT
Transferred impression of friction ridge detail not readily visible; generic term used for questioned friction ridge detail.

LIFT
An adhesive or other medium on which recovered friction ridge detail is preserved.

LEVEL 1 DETAIL
Friction ridge flow and general morphological information.

LEVEL 2 DETAIL
Individual friction ridge paths and friction ridge events, e.g., bifurcations, ending ridges, dots.

LEVEL 3 DETAIL
Friction ridge dimensional attributes, e.g., width, edge shapes, and pores.

MAJOR CASE PRINTS
A systematic recording of all of the friction ridge detail appearing on the palmar sides of the hands. This includes the extreme sides of the palms, and joints, tips and sides of the fingers.

MINUTIAE
See Characteristics.

MISSED IDENTIFICATION
The failure to make an identification (individualization) when, in fact, both friction ridge impressions are from the same source.

NON-IDENTIFICATION
The determination that two areas of friction ridge impressions did not originate from the same source (exclusion).

PATENT PRINT
Friction ridge impression of unknown origin, visible without development.

POINTS/POINTS OF IDENTIFICATION
See Characteristics.

POROSCOPY
A study of the size, shape and arrangement of pores.

QUALITATIVE
The clarity of information contained within a friction ridge impression

QUANTITATIVE
The amount of information contained within a friction ridge impression

RELATIVE POSITION
Proximity of characteristics to each other.

RIDGE CHARACTERISTICS
See Characteristics.

RIDGEOLOGY
The study of the uniqueness of friction ridge skin and its use for personal identification (individualization).

RIDGE FLOW
A series of adjacent friction ridges in a directional arrangement.

RIDGE PATH
The directional flow of a single friction ridge.

SHORT RIDGE
A single friction ridge beginning, traveling a short distance, and ending.

SPUR
A bifurcation with one short ridge branching off a longer ridge.

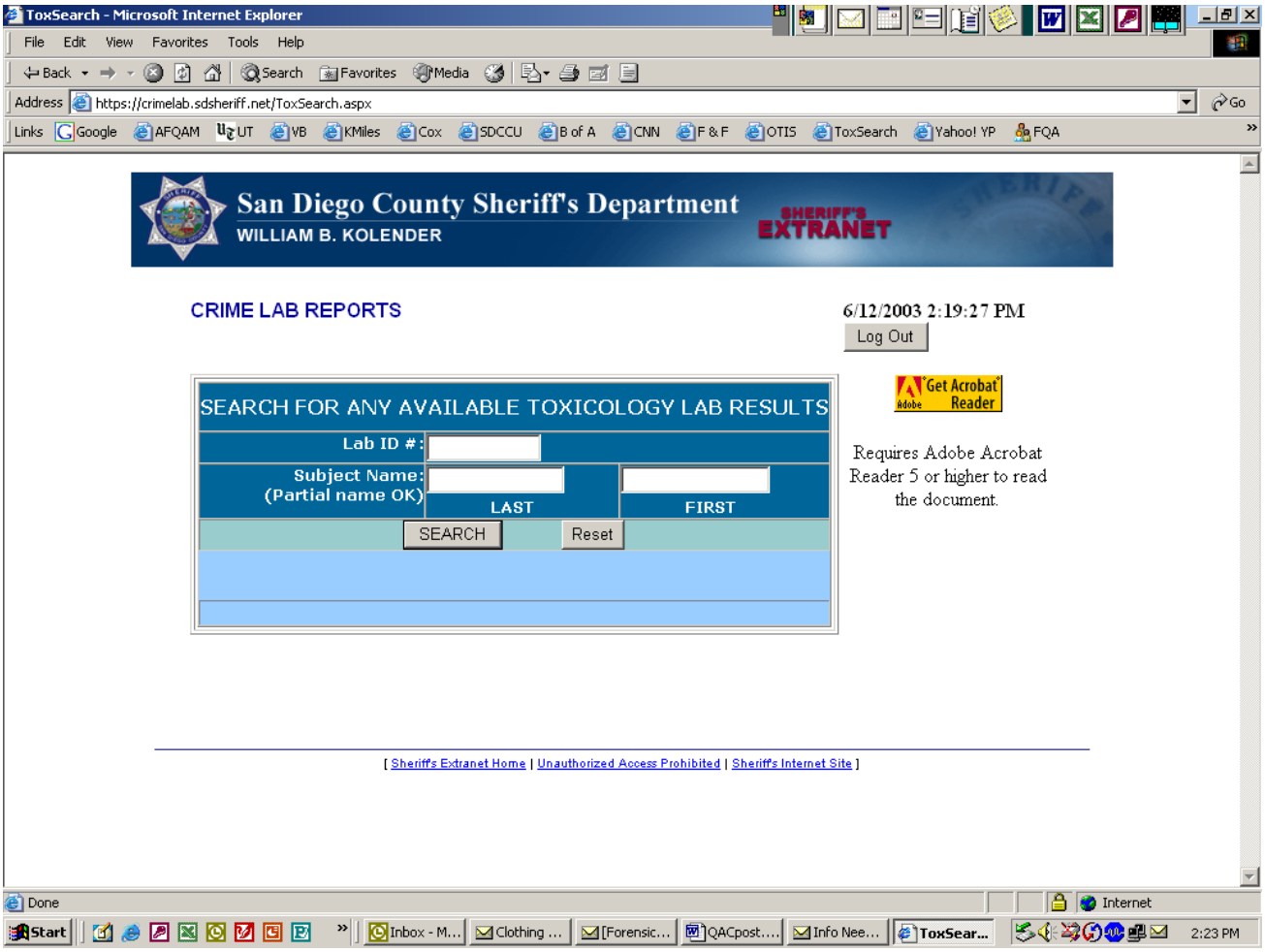
TRIFURCATION
The point at which one friction ridge divides into three friction ridges.

VERIFICATION
Confirmation of an examiner's conclusion by another qualified examiner.

[The San Diego Sheriff's Crime Laboratory ALPS Section follows the SWGFAST Glossary of Identification, updated May 23, 2002.]

APPENDIX 5

ASCLD/LAB STANDARDS AND CRITERIA 1.4.2.14 (E)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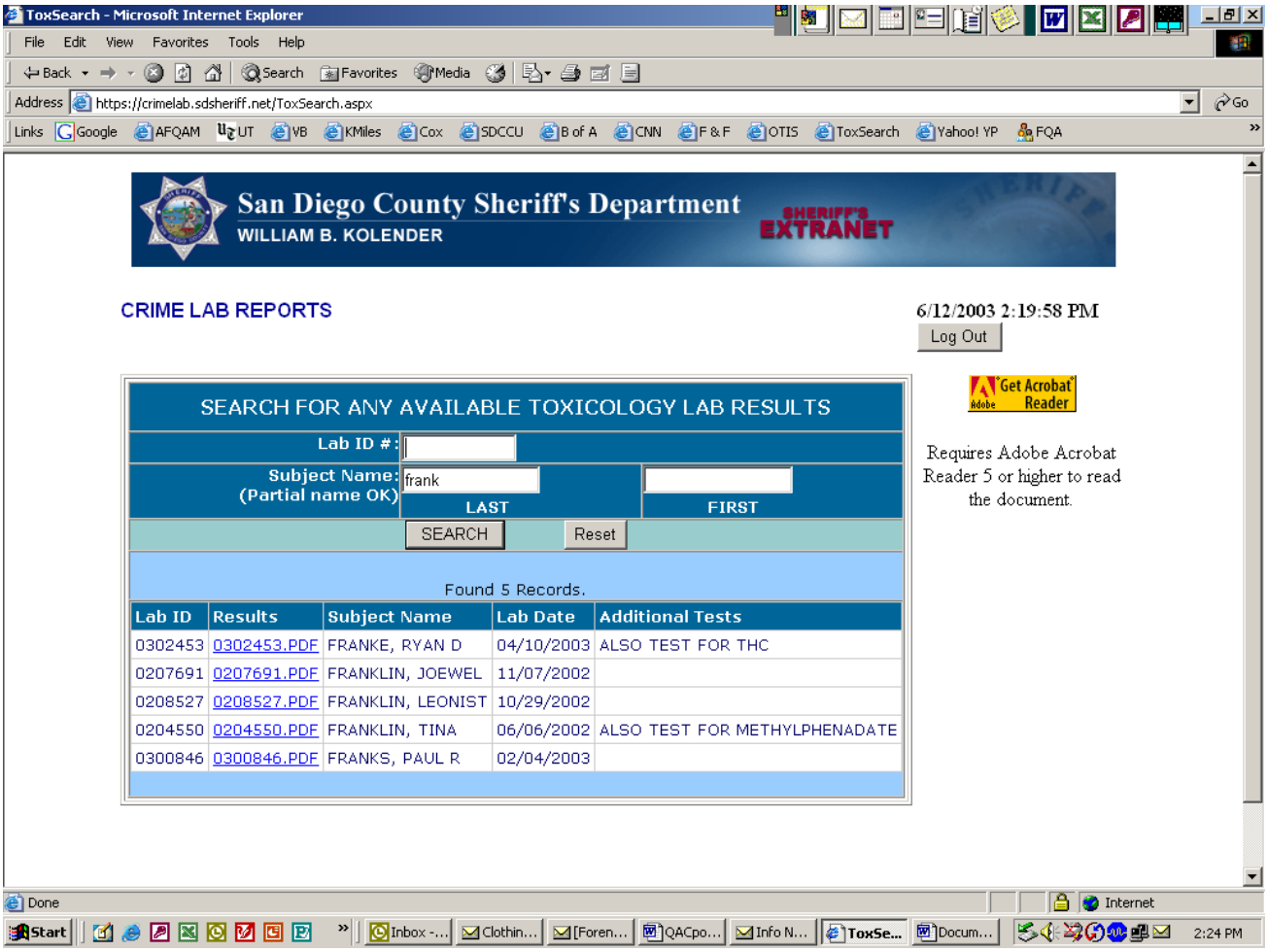
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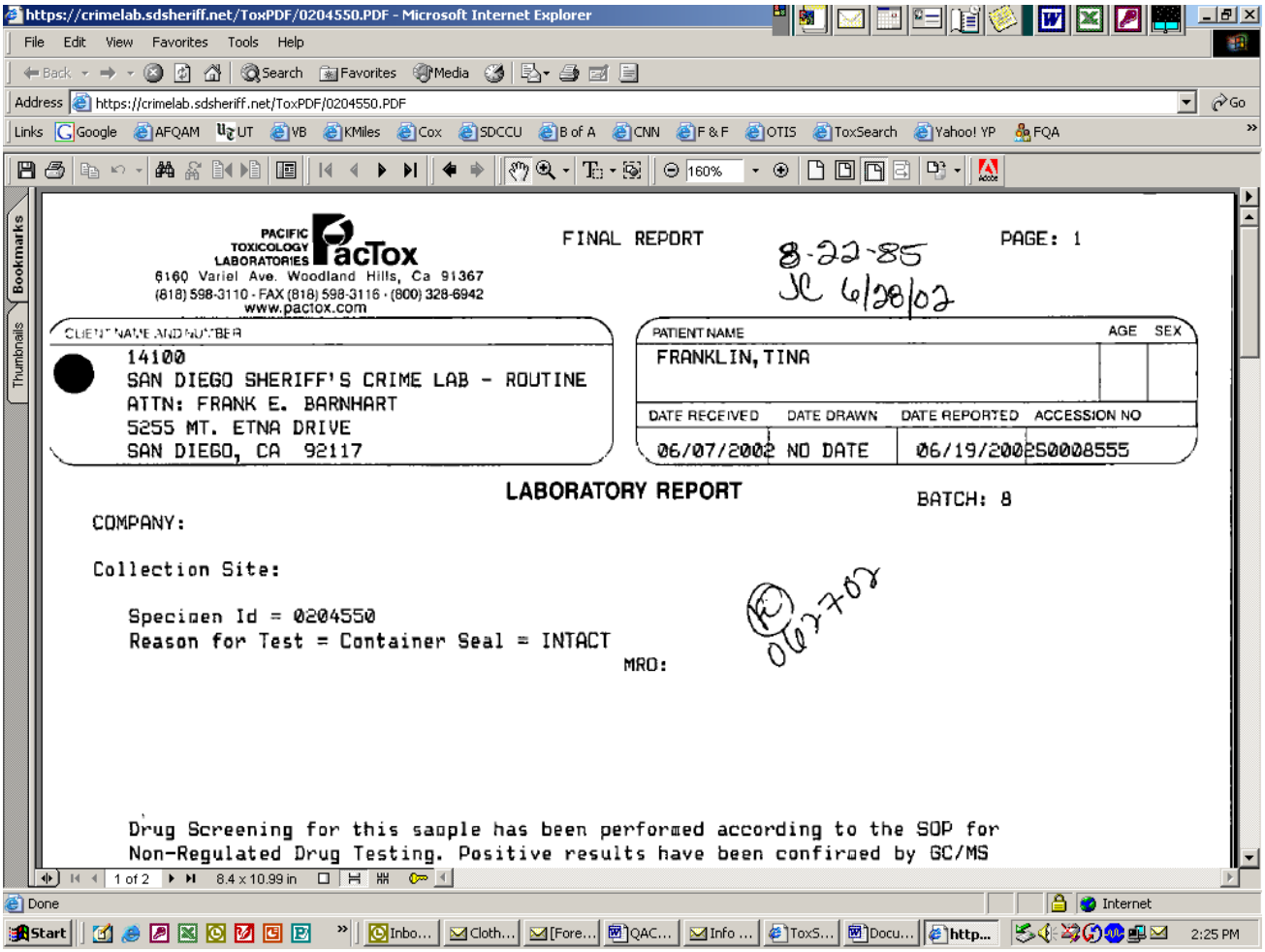
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FRANKLIN, TINA
DATE RECEIVED
DATE DRAWN
DATE REPORTED
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06/19/2002
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MRO:
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Non-Regulated Drug Testing. Positive results have been confirmed by GC/MS

APPENDIX 6

ASCLD/LAB STANDARDS AND CRITERIA 1.4.2.19 (E)

7.13.7 Proficiency Test Evaluation Results

The Quality Assurance Manager uses the Proficiency Test Evaluation Form to document an

examiner's proficiency test results. The Quality Assurance Manager places satisfactory test results in the examiner's proficiency test records file.

Successful completion of a proficiency test occurs when one of the following is true:

- An examiner obtains a correct analytical result, as stated by the test provider.

- An examiner obtains a correct analytical result by a consensus of the Quality Assurance Manager, section supervisor, and section lead.

If test results indicate a discrepancy, the Quality Assurance Manager (the DNA Technical Lead for DNA results) will immediately contact the examiner's supervisor. If the supervisor determines that the examiner has not obtained satisfactory results, the examiner will be contacted and immediately removed from casework. Further corrective measures must be taken pursuant to Proficiency Review Committee directives or the laboratory's written policies. Corrective action may include instruction, retesting, or retraining. All corrective measures taken must be documented.

For an examiner to successfully maintain proficiency following a discrepancy, he or she must obtain correct results on a subsequent proficiency test in that discipline.