LABORATORY PROFICIENCY TESTING PROGRAM

National Institute of Justice
United States Department of Justice
Washington, D.C. 20531

PROJECT ADVISORY COMMITTEE
John F. Anderson
Spokane, Washington

J. D. Chastain
Austin, Texas

Richard H. Fox
Independence, Missouri

Anthony Longhetti
San Bernardino, Ca.

Charles McInerney
Pittsburgh, Pa.

Andrew H. Principe
Highland Park, Illinois

John Thornton
Berkeley, Ca.

B. Edward Whittaker
Miami, Florida

PROJECT STAFF
J. L. Peterson
E. Fabricant

Statistical presentations prepared by:
COLLABORATIVE TESTING SERVICES, INC.
Vienna, Virginia

4-23-82

SUPPLEMENTARY REPORT
SAMPLES 11-15

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1953-A

Points of view or opinions stated in this document are those of the author(s) and do not represent the official position or policies of the U.S. Department of Justice.

Microfilming procedures used to create this fiche comply with the standards set forth in 41CFR 101-11.504.

If you have issues viewing or accessing this file contact us at NCJRS.gov.
PREFACE

The analyses summarized in this report are intended for use as a supplement to previously distributed reports.

The Proficiency Testing Project, initiated in the fall of 1974, is a research study of how to prepare and distribute specific samples; how to analyze laboratory results; and how to report those results in a meaningful manner. Participation in the program is voluntary and anonymous, and involves approximately 240 laboratories. To date, 21 samples of evidence have been distributed. A Test Report has been published or is in the process of being published for each of these samples, each report being a statistical summary of the findings of the participating laboratories.

This report is the third in a series of supplementary reports which evaluates results from a grouping of samples. The observations are based on data which has been reported in the individual test reports for those samples.

The citing of any product or method in this report is done solely for reporting purposes and does not constitute an endorsement by the project sponsors.

Comments or suggestions relating to any portion of this report or of the program in general will be appreciated.

U.S. Department of Justice
National Institute of Justice
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated in this document are those of the authors and do not necessarily represent the official position or policies of the National Institute of Justice.

January 1977

TABLE OF CONTENTS

PREFACE .................................................. 1
INTRODUCTION ............................................ 1
TABLE OF RESPONSE RATES .............................. 2
TEST #11 - SOIL EXAMINATION .......................... 3
TEST #12 - FIBER EXAMINATION ........................ 5
TEST #13 - PHYSIOLOGICAL FLUID ...................... 7
TEST #14 - ARSON EXAMINATION ....................... 9
TEST #15 - DRUG ANALYSIS ............................. 10
APPENDIX .................................................. 12

FIGURE 1 - DATA SHEET TEST #11 .................. 13
FIGURE 2 - QUICK REPORT TEST #11 ............... 15
FIGURE 3 - DATA SHEET TEST #12 .................. 16
FIGURE 4 - QUICK REPORT TEST #12 ............... 18
FIGURE 5 - DATA SHEET TEST #13 .................. 19
FIGURE 6 - QUICK REPORT TEST #13 ............... 21
FIGURE 7 - DATA SHEET TEST #14 .................. 22
FIGURE 8 - QUICK REPORT TEST #14 ............... 24
FIGURE 9 - DATA SHEET TEST #15 .................. 25
FIGURE 10 - QUICK REPORT TEST #15 .............. 27
This is the third in a series of Supplementary Reports pertaining to the Proficiency Testing Project. This report, as in the case of the first two Supplementary Reports, discusses the frequency of correct and incorrect responses reported by participating laboratories.

The Project Advisory Committee wishes to point out that the specific numbers of laboratories reporting correct or incorrect responses is not central to the tenets of the Proficiency Testing Program. The degree of difficulty of the various samples was determined by the Project Advisory Committee on a sample to sample basis. The Project Advisory Committee could have composed or manufactured samples that would have guaranteed a 99% correct response rate, or samples that would have resulted in a 5% correct response rate. Due to this variation in degree of difficulty, the actual percentage of laboratories submitting correct or incorrect responses may not reflect the actual capability of the participating laboratories.

The Project Advisory Committee also wishes to point out that each sample consists of a different data matrix, and that it is not possible to assess the capability of a laboratory to perform one type of examination by examining its performance in another category.

### RESPONSE RATES

<table>
<thead>
<tr>
<th>Number</th>
<th>Sample Description</th>
<th>N.R.</th>
<th>Participation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>#11</td>
<td>SOIL EXAMINATION (90)</td>
<td>84</td>
<td>52%</td>
</tr>
<tr>
<td>#12</td>
<td>FIBER EXAMINATION (116)</td>
<td>79</td>
<td>61%</td>
</tr>
<tr>
<td>#13</td>
<td>PHYSIOLOGICAL FLUIDS (128)</td>
<td>73</td>
<td>63%</td>
</tr>
<tr>
<td>#14</td>
<td>ARSON EXAMINATION (114)</td>
<td>77</td>
<td>59%</td>
</tr>
<tr>
<td>#15</td>
<td>DRUG ANALYSIS (146)</td>
<td>82</td>
<td>64%</td>
</tr>
</tbody>
</table>

N.R. = No Response

- - - = Do not perform this type of analysis
TEST #11 - SOIL EXAMINATION

Test Sample #11 consisted of three items: Item A was a soil sample from near Fresno, California. Items B and C were duplicate samples of soil from near Patterson, California. Laboratories were asked if Items B and C could have shared a common origin with Item A. Eighty-eight laboratories returned results for this exercise. Of these laboratories, 55 or 62.5%, correctly reported that neither B nor C could have shared a common origin with Item A. Twenty-five laboratories, or 28.4%, incorrectly reported that both B and C could have shared a common origin with Item A. One laboratory reported that Item B could not have shared a common origin with Item A, and indicated no response for Item C.

To summarize these data in terms of total responses, 56 laboratories (63.5%) reported that Item B could not have shared a common origin with Item A, and 57 laboratories (64.8%) reported that Item C could not have shared a common origin with Item A. Twenty-seven laboratories (30.7%) incorrectly stated that Item B could have shared a common origin with Item A, and 25 laboratories (28.4%) incorrectly reported that Item C could have shared a common origin with Item A.

The Project Advisory Committee notes a positive relationship between incorrect responses and the failure to perform comparative density determinations; those laboratories who did not perform a density determination were more likely to draw an erroneous conclusion in this exercise than those who did perform the density determinations. At the same time, a number of laboratories reporting incorrect results did in fact conduct a density determination and reported identical density distributions for both A and B/C. Other laboratories reported a difference between B and C when tested by density gradient, despite the fact that B and C were replicate samples taken from a homogenous whole.

From this, the Project Advisory Committee concludes that the density gradient technique is very useful for discriminating among soil samples, but in itself is not a guarantee of success in soil comparisons. The Project Advisory Committee also concludes that in those instances in which the density gradient technique was attempted but erroneous results reported, one or more of the following may have occurred:

- Carelessness or lack of experience on the part of the examiner.
- Coarseness or heterogeneity in the density gradients resulting from improper technique in their preparation.

The Project Advisory Committee notes that in a number of instances in which incorrect results were reported, instrumental analysis was performed. In some instances the ambiguous or erroneous data from the instrumental approaches (emission spectroscopy, x-ray spectroscopy) was apparently given more weight than more correct data derived from other tests. The Project Advisory Committee cautions laboratories against an unjustified faith in instrumental approaches, and wishes to point out that the proper utilization of these instrumental approaches presumes both a correct operating technique and careful interpretation of the results projected against an adequate data base. The Project Advisory Committee most emphatically is not suggesting that sophisticated instrumentation not be acquired and used, but wishes to emphasize the necessity for the proper training of personnel, the use of in-house standards and blind controls, and properly selected protocols of analysis.
TEST #12 - FIBER EXAMINATION

Test Sample #12 consisted of three items of virtually the same color: Item A was wool, Item B was acrylic (70% acrylic + 30% modacrylic), and Item C was polyester. Laboratories were asked if Item A could have shared a common origin with Item C, and if Item B could have shared a common origin with Item C.

All 116 laboratories participating in this exercise correctly reported that Item A could not have shared a common origin with Item C. Two laboratories, or 1.7% of the total, incorrectly reported that Item B could have shared a common origin with Item C.

The Project Advisory Committee is in accord with the following general comments regarding this sample:

One laboratory reporting that Items B and C could have shared a common origin used microscopic examination of the fiber and of its cross section, melting point determination, and solubility tests. On the basis of these tests, Item B was identified as acrylic and Item C was tentatively identified as polyester. The differences in solubility and cross sectional appearance were noted. The analytical results clearly do not support a determination of possible common origin, and the Project Advisory Committee concludes that a check was made in the wrong box in Question 1 of the Data Sheet (See Appendix, Figure 3). The Project Advisory Committee wishes to point out, however, that an error in reporting may have the same consequences as an error in the analytical work, and suggests that laboratories review their procedures for ensuring that the conclusions stated in reports are in consonance with the laboratory work that has been performed.

The second laboratory reporting that Items B and C could have shared a common origin used microscopic examination, solubility tests, Pyrolysis-GC, and birefringence determination. Solubility tests and Pyrolysis-GC were reported as giving the same results on Items B and C, and both fibers were identified as being an acrylic. The Project Advisory Committee concludes that one or more of the following errors may have occurred:

- Inadequate or erroneous data base relative to solubility tests and Pyrolysis-GC,
- Misinterpretation of the test results by the operator resulting from carelessness or lack of experience.

Several laboratories correctly reported that Items A and B could not have shared a common origin with Item C, but did so for incorrect reasons. One laboratory reported that Item C was a plant fiber, one laboratory identified Item C as nylon, and two laboratories tentatively identified Item C as nylon. The Project Advisory Committee wishes to point out that a correct answer which is only coincidental is still an error, and urges the laboratories who misidentified the polyester of Item C to review their methodology to eliminate the possible sources of error cited above.
TEST SAMPLE #13 - PHYSIOLOGICAL FLUID

Test Sample #13 consisted of two items: Item A was a saliva stain from a Type A secretor individual, and Item B was a seminal stain from a Type A secretor individual with a normal sperm count. One hundred and twenty-eight laboratories responded in this exercise.

With respect to Item B (seminal stain), 107 laboratories, or 83.6% of the total number responding, conclusively identified the stain as a seminal stain. Eighteen laboratories, or 14.1% of the total, tentatively identified it as a seminal stain. Twenty laboratories, or 1.6%, reported inconclusive results. With respect to Item A (saliva stain), 41 laboratories, or 36.7% of those reporting, tentatively identified the stain as a saliva stain and 23 laboratories (20.2%) conclusively identified the stain as a saliva stain. Thirty-seven laboratories (32.9%) reported inconclusive results. Sixteen laboratories (13.6%) eliminated at that point.

One laboratory (0.8%) tentatively identified the stain as that of vaginal exudate, and two laboratories (1.6%) conclusively identified the stain as vaginal exudate.

The Project Advisory Committee is in accord with the following general comments regarding this sample:

The Project Advisory Committee recognizes that the probative value of the identification of saliva stain may be low in many instances, and that many laboratories have adopted a policy in routine cases of terminating an examination once it has been established that a stain is not a seminal stain. The Project Advisory Committee does not, therefore, consider the response "not a seminal stain" to represent an incorrect response.

In a like manner, the Project Advisory Committee does not take issue with the tentative identification of the stain as a saliva stain if it is the normal laboratory policy not to pursue a rigorous identification in situations of this sort. At the same time, the Project Advisory Committee would urge laboratories to push for a rigorous identification when it is of concern to establish that the stain is in fact a saliva stain. Among the situations that would call for a rigorous identification would include those cases in which a blood group determination is attempted.

The two laboratories that reported that Item A was conclusively a vaginal stain both failed to attempt a starch amylase test. Since the identification of a stain as a vaginal stain rests heavily on negative evidence, the Project Advisory Committee wishes to point out the necessity of attempting the appropriate tests to indicate the probable nature of the stain. In this instance, the positive starch amylase test would have suggested the probability of the stain being attributable to saliva.

Two laboratories reported inconclusive results for Item B ( seminal stain). One of these laboratories failed to indicate any methods used, and the Project Advisory Committee cannot express any meaningful statement regarding the adequacy of the methodology used. In the remaining instance where an inconclusive result was reported, a microscopic examination was performed and an acid phosphatase test was conducted. No specific results were reported, but the Project Advisory Committee assumes that no intact spermatozoon were recovered.

Eighteen laboratories reported Item B as being tentatively identified as a seminal stain. Virtually all of these laboratories reported being unable to demonstrate intact spermatozoa in the stain. No positive relationship was observed between the stain used and the ability or inability to recover intact spermatozoa. In view of the fact that the overwhelming majority of laboratories were able to recover spermatozoa from the stain, the Project Advisory Committee concludes that one or more of the following may have occurred:

- Improper extraction and fixing of the stain,
- Failure to systematically examine the slides prepared from the stain,
- Or a failure to continue the search for cells after an initial lack of success.

The Project Advisory Committee urges laboratories to review their methods for the extraction of stains and the fixation of the cells to the microscope slide, and to ensure that reasonable perseverance is exercised in the search for spermatozoa.
TEST #14 - ARSON EXAMINATION

Test Sample #14 consisted of three items: Item A was approximately 8 ml of leaded gasoline, specifically Chevron Supreme (94.5 octane). Item B was a piece of 100% cotton cloth with 2 ml of the gasoline described under Item A absorbed in the cloth. Item C was another piece of cloth identical to that described under Item B, but with no gasoline. Items B and C were cut with scissors from one piece of cloth. Laboratories were asked if Items A or C could have a common origin with Item B. One hundred and fourteen laboratories responded in this exercise. Ninety laboratories, or 78.9% of the total laboratories responding, stated correctly that Item A could have shared a common origin with Item B. One hundred and one laboratories, or 86.5%, correctly reported that Item C could have shared a common origin with Item B. Twelve laboratories (10.5%) stated incorrectly that Item A could not have shared a common origin with Item B, and 4 laboratories (3.55%) incorrectly reported that Item C could not have shared a common origin with Item B.

The Project Advisory Committee is in accord with the following general comments regarding this sample:

The four laboratories that reported that Item C and Item B and the five laboratories that reported inconclusive results for this portion of the exercise failed to recognize the physical match between the cotton cloth in the two items. The Project Advisory Committee urges laboratories to take the steps necessary to ensure that one form of physical evidence is not ignored simply because it is not typical of the type of case under examination.

The twelve laboratories reporting that Item A could not have shared a common origin with Item B relied in part on gas chromatographic analysis. The Project Advisory Committee concludes that carelessness or lack of experience on the part of the operator may have lead to these erroneous conclusions.

Several laboratories reported test results that conferred results which appear in part to reflect an unjustified reliance on infrared Spectrophotometry to discriminate between gasoline mixtures. The Project Advisory Committee urges that considerable caution be exercised in the interpretation of IR data on complex mixtures of hydrocarbons and petroleum distillates.

TEST #15 - DRUG ANALYSIS

A mixture of methamphetamine and ephedrine in lactose and sodium carbonate was sent as Test Sample #15. One hundred forty-six laboratories reported results. Eighty-seven laboratories, or 59.6% of the total, correctly reported both methamphetamine and ephedrine. Thirty-eight laboratories, or 21.2%, reported methamphetamine only. Seventeen laboratories, or 11.5% of the total, reported ephedrine only. Four laboratories, or 2.5%, reported amphetamine; and seven laboratories, representing 4.8% of the total laboratories, reported no drug material present.

The Project Advisory Committee is in accord with the following general comments regarding this sample:

The Project Advisory Committee recognizes that many laboratories have a policy of pursuing an analysis only to the point where relevant statutory considerations are fulfilled, and, having identified the material, would conclude the examination. The Project Advisory Committee cannot conclude that any error has taken place if a laboratory reported only methamphetamine.

Seven laboratories failed to report either ephedrine or methamphetamine. Among the methods used by these laboratories were Gas GC/MS, X-Ray Diffractometry, Color and Crystal Tests, and Infrared Spectrophotometry, Color and Crystal Tests. In no case could the failure to identify the drug materials be attributed to a lack of available instrumentation or to an insufficient methodology. The Project Advisory Committee can conclude that one of the following may have occurred:

- Inadequate data base or inadequate standard spectra,
- Misinterpretation of the test results by the operator resulting from carelessness or lack of experience.

Four laboratories reported the presence of amphetamine, the four being split as to whether the amphetamine was the dextrorotatory isomer or the racemic mixture. Each laboratory reported the use of gold chloride Project Advisory Committee can conclude that one of the following may have occurred:

- Mislabelled or contaminated primary standard,
- Reagent made up incorrectly,
- Misinterpretation of test results by the operator resulting from carelessness or lack of experience leading to failure to properly recognize and interpret crystal forms.
The Project Advisory Committee wishes also to point out that a quickly performed and easily interpreted color test exists to distinguish primary and secondary amines, and urges the application of this test when the circumstances warrant. The application of this test would have avoided the mistakes of the type under discussion.

Seventeen laboratories reported only ephedrine. The Project Advisory Committee considers the reporting of ephedrine only to be a less than correct response for this sample. The methods used by these laboratories run a full gamut of instrumental approaches, color and crystal tests, and chromatographic methods. The Project Advisory Committee urges the laboratories missing the methamphetamine to review their analytical approach to ensure that the presence of one non-controlled material will not mask the presence of another, controlled drug material. In the case of the phenethylamines, considerable caution should be placed on the interpretation of the results of Ultraviolet Spectrophotometry and color tests.

APPENDIX
Ein A represents a soil sample from a burglary scene. Items B and C represent samples of soil removed from the shoes of two different suspects.

1. Could Items B or C have a common origin with Item A?

<table>
<thead>
<tr>
<th>Item B</th>
<th>Item C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Inconclusive</td>
<td></td>
</tr>
</tbody>
</table>

2. What information (qualitative and quantitative) did you develop to arrive at your conclusions in Question 1? Please check all appropriate boxes and provide values where applicable.

In the left hand column indicate the sequence (1, 2, 3, etc.) in which the tests were run. Indicate with an asterisk (*) the point where a conclusion was reached, even though subsequent tests were performed for confirmatory purposes. If elemental and/or mineral composition is determined, indicate the elements and/or minerals identified.

<table>
<thead>
<tr>
<th>Sequence of Testing</th>
<th>ITEM A</th>
<th>ITEM B</th>
<th>ITEM C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density Studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microscopic Examination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emission Spectroscopy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X-Ray Diffraction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X-Ray Spectroscopy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (Specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Please provide the results obtained with each of the methods and instruments checked in Question 2. (Example: Density Gradient tubes using mixture of bromoform and bromobenzene, etc.) Please provide specific and complete responses. Attach additional sheets if necessary.

Method:

Method:

Method:

4. Additional Comments

DATA SHEETS MUST BE RECEIVED AT THE FOUNDATION OFFICE BY JANUARY 2, 1976
Thank you for returning your data sheets and test results. The soil samples have been characterized by the manufacturer as follows:

Sample A
- Hanford Sandy Loam, Fresno, California

Sample B
- Columbia Sandy Loam, Patterson, California

Sample C
- Hanford Sandy Loam, Fresno, California

Samples A, B, and C key in the Munsell Soil Color Chart as:

10 YR/5/3 (dry)
10 YR/3/3 (wet)

A may be distinguished from B and C by density gradient and elemental analysis. Therefore, A does not have common origin with B or C.

At a later date, a complete report will be sent to you including the results of the referee laboratories and the results of all laboratories by code number.

---

FIGURE 3

ITEM 13

---

FIGURE 3

LAB CODE B

☐ CHECK HERE (AND RETURN) IF YOU DO NOT PERFORM FIBER EXAMINATION

DATE RECEIVED IN LAB

DATE PROCESSED IN LAB

DATA SHEET

PROFICIENCY TESTING PROGRAM

TEST #12

FIBER EXAMINATION

Item C represents fibers from the scene of a homicide. Items A and B represent fibers found on the shoes of two different suspects.

1. Could Items A or B have common origin with C?

<table>
<thead>
<tr>
<th>ITEM A</th>
<th>ITEM B</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>INCONCLUSIVE</td>
<td></td>
</tr>
</tbody>
</table>

2. What information (qualitative and quantitative) did you develop to arrive at your conclusions in Question 1? Please check all appropriate boxes and provide values where applicable.

In the left hand column indicate the sequence (1, 2, 3, etc.) in which the tests were run. Indicate with an asterisk (*) the point where a conclusion was reached, even though subsequent tests were performed for confirmatory purposes.

Sequence of Testing

<table>
<thead>
<tr>
<th>BIREFRINGENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMISSION SPECTROSCOPY (Specify Elements Identified):</td>
</tr>
<tr>
<td>FLUORESCENT STUDIES</td>
</tr>
<tr>
<td>IMPROBABLE ANALYSIS</td>
</tr>
<tr>
<td>MICROSCOPIC EXAMINATION</td>
</tr>
<tr>
<td>MELTING POINT DETERMINATION</td>
</tr>
<tr>
<td>MICROSCOPIC EXAMINATION (Specify Type):</td>
</tr>
<tr>
<td>PHENOLYSIS F-C</td>
</tr>
<tr>
<td>REFRACTIVITY INDEX</td>
</tr>
<tr>
<td>SOLUBILITY TESTS (Specify Solvent Used):</td>
</tr>
<tr>
<td>THEIR LACT SYNOTOMETRY</td>
</tr>
<tr>
<td>OF SPECTRUM-NOTOMETRY</td>
</tr>
<tr>
<td>E-MR OR DETERMINATION</td>
</tr>
<tr>
<td>W-TH FLUORESCENCE</td>
</tr>
<tr>
<td>(Cont'd etc)</td>
</tr>
<tr>
<td>OTHER (Specify):</td>
</tr>
</tbody>
</table>

---
3. Please specify the information developed with each of the methods and instruments checked in Question 2. (Example: Solubility tests using HCl, H₂SO₄, Acetone and HNO₃; microscopic-fibers identified as cotton, nylon, etc.)

Please provide specific and complete responses. Attach additional sheets if necessary.

Method:

Method:

Method:

4. Additional Comments:

DATA SHEETS MUST BE RECEIVED AT THE
FUNDATION OFFICE BY FEBRUARY 10, 1976

17

FIGURE 4

QUICK REPORT
PROFICIENCY TESTING PROGRAM
TEST #12
FIBER EXAMINATION

Thank you for returning your data sheets and test results. The fibers can be characterized according to the sample manufacturer as follows:

Item A - Composition: 100% wool
Manufacturer: Philadelphia Carpet Company
Color: Heather Green

Item B - Composition: Acrylic (70% acrylic + 30% modacrylic)
Manufacturer: Brinkcrest Company
Color: #1014 Avocado

Item C - Composition: 100% Dacron Polyester
Manufacturer: Burlington Industries
Color: #31 Pine

At a later date, a complete report will be sent to you including the results of these referee laboratories and the results of all laboratories (by code numbers).
Items A and B represent evidence collected in connection with a rape case. Please examine the items according to your normal laboratory procedures and complete portion(s) which comply with your laboratory policy. Please add any additional information you consider pertinent to your response.

1a. The stain on Item A (Blue Cloth):
   - was examined with inconclusive results
   - was examined and determined tentatively as representing a __________ stain.
   - conclusively

1b. The following tests were conducted to arrive at the answer to question 1a:
   - Microscopic examination
   - Phase contrast
   - Bright field (specify stain used) __________________________
   - Acid phosphatase determination
     specify substrate: __________________________
     specify dye: __________________________
   - Starch amylase
   - Microcrystalline (specify) __________________________
   - Blood group determination (specify factors sought, and methods used).
     Factors: __________________________
     Methods used: __________________________
   - Other (specify) __________________________

3. Additional Comments:

2a. The stain on Item B (Pink Cloth):
   - was examined with inconclusive results
   - was examined and determined tentatively as representing a __________ stain
   - conclusively

2b. The following tests were conducted to arrive at the answer to question 2a:
   - Microscopic examination
   - Phase contrast
   - Bright field (specify stains used) __________________________
   - Acid phosphatase determination
     specify substrate: __________________________
     specify dye: __________________________
   - Starch amylase
   - Microcrystalline (specify) __________________________
   - Blood group determination (specify factors sought, and methods used).
     Factors: __________________________
     Methods used: __________________________
   - Other (specify) __________________________
Thank you for returning your data sheets and test results. The stains are characterized by the manufacturer as follows:

Item A: (Blue Cloth) is stained with saliva from a Type A secretor individual.

Item B: (Pink Cloth) is stained with seminal fluid from a Type A secretor individual with a normal sperm count.

At a later date, a complete report will be sent to you including the results of three referee laboratories and the results of all laboratories (by code number).

Item B represents a piece of evidence found at the scene of an attempted arson. Items A & C were found in the back seat of a fleeing motor vehicle minutes after a silent alarm was activated at police headquarters.

1. Could Items A or C have common origin with Item B?
   a. Yes □  No □  Inconclusive □

   b. Does the evidence denote a conspiracy?
      Yes □  No □  Inconclusive □

2. What information (qualitative, quantitative and criminalistic) did you develop to arrive at your conclusion in Question 1? List the order of tests performed. Asterisk (*) the point at which a conclusion or conclusions were reached.

   Sequence of Testing
   1. Information Developed
   2. ____________________________
   3. ____________________________
   4. ____________________________
   5. ____________________________

   3. a. Was an accelerant found? Yes □  No □

   b. If "Yes", was it identified? Yes □  No □

      Identified as: ____________________________
4. Please specify the information developed with each of the methods and instruments used. Please provide specific and complete responses. Attach additional sheets if necessary.

Method:

Method:

Method:

5. Additional Comments:

DATA SHEETS MUST BE RECEIVED AT THE FOUNDATION OFFICE BY APRIL 23, 1976
FIGURE 9

LAB CODE B

CHECK HERE (AND RETURN) IF YOU DO NOT PERFORM DRUG ANALYSIS

DATE RECEIVED IN LAB

DATE PROCESSED IN LAB

DATA SHEET
PROFICIENCY TESTING PROGRAM
TEST #15
DRUG ANALYSIS

1. The enclosed substance was a street buy. The agent needs all the qualitative and quantitative information you can provide.

(Over)

Information is being collected for research and statistical purposes only. Such information will not be revealed or used for any other purpose. Information furnished by any person or agency and identifiable to any specific person or laboratory will not be revealed or used for any purpose other than the research and statistical purposes for which it was obtained.

2. Indicate method(s) used:

DATA SHEETS MUST BE POSTMARKED BY JUNE 9, 1976
Thank you for returning your data sheets and test results. The drug sample is characterized by the manufacturer as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Composition by Weight</th>
<th>% Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>dl Methamphetamine HCl</td>
<td>3.0 grams</td>
<td>1%</td>
</tr>
<tr>
<td>Ephedrine Sulfate</td>
<td>3.0 grams</td>
<td>1%</td>
</tr>
<tr>
<td>Lactose</td>
<td>147 grams</td>
<td>49%</td>
</tr>
<tr>
<td>Sodium Carbonate (Anhydrous)</td>
<td>147 grams</td>
<td>49%</td>
</tr>
<tr>
<td></td>
<td>300 grams</td>
<td>100%</td>
</tr>
</tbody>
</table>

At a later date, a complete report will be sent to you including the results of the referee laboratories and the results of all laboratories (by Code Number).