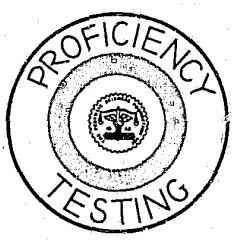
# LABORATORY PROFICIENCY TESTING PROGRAM

## REPORT NO. 13

## PHYSIOLOGICAL FLUID



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# LABORATORY PROFICIENCY TESTING PROGRAM

# REPORT NO. 13

# PHYSIOLOGICAL FLUID



PROJECT STAFF

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Statistical presentations prepared by:

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Vienna, Virginia

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Points of view or opinions stated in this document are those of the authors and do not necessaril, represent the official position or policies of the U.S. Department of Justice.

# FOREWORD

The analysis summarized in this report is the thirteenth of a series that will be made in conjunction with this proficiency testing research project.

In the course of this testing program participating laboratories will have analyzed and identified different samples of physical evidence similar in nature to the types of evidence normally submitted to them for analysis.

The results for Test Number Thirteen are reflected in the charts and graphs which follow.

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.

August 1976

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# BACKGROUND

This laboratory proficiency testing research project, one phase which is summarized in this report, was initiated in the fall of 1974.

This 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. 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 identifiable to any specific person or laboratory will not be revealed or used for any purposes, other than the research and statistical purposes for which it was obtained.

Participation in the program is voluntary. Accordingly, invitations have been extended to 238 laboratories to share in the research. It is recognized that all laboratories do not perform analyses of all possible types of physical evidence. Thus, in the data summaries included in this report, space opposite some Code Numbers (representing specific laboratories) may be blank, or marked "No Data Returned".

Additional evaluations of individual tests will be published in a separate report.

The Project is under the direct control of the Project Advisory Committee whose members' names are listed on the Title Page. Each is a nationally known criminalistic laboratory authority.

Supporting the Project Advisory Committee in their efforts is the Forensic Sciences Foundation with additional support from the Collaborative Testing Service, Inc., Vienna, Virginia in the area of statistical presentation.

# SUMMARY

In this test 235 laboratories were sent two cloth samples containing stains which were referred to as Items A and B. A copy of the Data Sheet is included at Annex A.

Of the 235 laboratories, 33 indicated that they did not do physiological fluid examination, 73 did not respond, 128 responded with data, and one laboratory was unable to complete the test before the deadline. This represents a participation rate of 63%.

The supplier's information in Table 1 shows that Item A contained a saliva stain, and that Item B contained a seminal stain. Table 2 contains the results of the referee laboratories, Tables 3a and 3b summarized the responses given for questions 1a and 2a. Information pertaining to the responses to questions 1b and 2b is given in Tables 4a through 4g. Tables 5 and 5a list for each laboratory, the methods used in the physiological fluid analyses.

No effort was made in the report to highlight areas wherein laboratory improvements might be instigated.

# ANNEX A

LAB CODE B_____

CHECK HERE (AND RETURN) IF YOU DO NOT DO PHYSIOLOGICAL FLUID EXAMINATION.

DATE RECEIVED _____
DATE PROCESSED _____

DATA SHEET
PROFICIENCY TESTING PROGRAM

TEST #13
PHYSIOLOGICAL FLUID EXAMINATION

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 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) _____

(OVER)



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) _____

3. Additional Comments:

Table 1

Supplier's Characteristics

Item A (Blue Cloth) contained a saliva stain from a Type A secretor individual.

Item B (Pink Cloth) contained a seminal stain from a Type A secretor individual with normal sperm count.

Table 2

Results of the Three Referee Laboratories

REFEREE LABORATORY 1

| Question # | Response |
|---|---|
| 1a) | The stain on Item A was examined with inconclusive results |
| 1b) | Microscopic Examination<br><br>Bright field - Hematoxylin Eosin stain used. Epithelial cells found (no fecal matter found)<br><br>Acid Phosphatase determination<br>Substrate: Calcium ∝-Naphthyl Phosphate Dye: Fast Red<br>No acid phosphatase detected, eliminating semen.<br><br>Starch amylase - results inconclusive, possibly due to lack of sufficient stain<br><br>UV fluorescence - negative |
| 2a) | The stain on Item B was examined and determined conclusively as representing a semen stain. |
| 2b) | Microscopic Examination - no squamous epithelial cells.<br><br>Bright field - Hematoxylin Eosin stain - spermatozoa (w/tails) identified.<br><br>Acid phosphatase determination - positive<br>Substrate & Dye as above<br><br>Starch amylase - negative<br><br>Microcrystalline - Florence reagent used: choline periodide crystals identified<br><br>Blood group determination<br>Factors: identified AH isoenzyme identified PGM[1] Methods: Absorption Inhibition Thin layer gel electrophoresis<br><br>UV fluorescence - negative |

Table 2 continued

REFEREE LABORATORY 2

| Question # | Response |
|---|---|
| 1a) | The stain on Item A was examined with inconclusive results. |
| 1b) | Microscopic Examination<br><br>Acid Phosphatase determination<br>Substrate: Calcium - 1 - Naphthyl phosphate<br>Dye: Fast Blue B<br><br>Starch amylase - No reaction<br><br>Microcrystalline - Florence - no crystals<br><br>Species origin - No reaction |
| 2a) | The stain on Item B was examined and determined conclusively as representing a human seminal stain |
| 2b) | Microscopic Examination<br><br>Acid Phosphatase determination<br>Substrate and Dye: as above<br><br>Microcrystalline - Florence: Choline crystals<br><br>Species origin - human<br><br>Anti human semen - human semen |

Table 2, continued

REFEREE LABORATORY 3

| Question # | Response |
|---|---|
| 1a) | The stain on Item A was examined and determined conclusively as representing a saliva stain. |
| 1b) | Microscopic Examination - Buccal cells present<br><br>Starch amylase<br><br>Blood group determination<br>Factors: A, H detected Methods: Absorption - inhibition, mixed agglutination, and absorption - elution |
| 2a) | The stain on Item B was examined and determined conclusively as representing a seminal stain. |
| 2b) | Bright field - Kernechrot and Picroindigocarmine stain used<br><br>Acid Phosphatase determination<br>Substrate: Ca - ∝ - naphthyl phosphate<br>Dye: Naphthanil Diazo Blue<br><br>Blood group determination<br>Factors: ABH - A found<br>Peptidase-A - Pep A 1-1 found<br>PGM PGM 1-1 found<br>Methods: as above |

Table 3a

Summary of Responses to Question 1a

Question 1a: The stain on Item A (Blue Cloth)

☐ was examined with inclusive results

☐ was examined and determined ☐ tentatively as representing a _____ stain

☐ conclusively

| Response | Number of Responses | % of Labs Reporting the Response |
|---|---|---|
| Saliva, tentatively | 47 | 36.7% |
| Inconclusive | 37 | 28.9% |
| Saliva, conclusively | 23 | 18.0% |
| Non-seminal | 16 | 12.5% |
| Vaginal, tentatively | 1 | .8% |
| Vaginal, conclusively | 2 | 1.6% |
| No Response | 2 | 1.6% |

Table 3b

Summary of Responses to Question 2a

Question 2a: The stain on Item B (Pink Cloth)

☐ was examined with inconclusive results

☐ was examined and determined ☐ tentatively as representing a _____ stain

☐ conclusively

| Response | Number of Responses | % of Labs Reporting the Response |
|---|---|---|
| Seminal, conclusively | 107 | 83.6% |
| Seminal, tentatively | 18 | 14.1% |
| Inconclusive | 2 | 1.6% |
| Conclusively _____ | 1 | .8% |

Table 4a

Frequency of the Methods Reported in Response to Question 1b

Question 1b: The following tests were conducted to arrive at the answer to Question 1a (regarding the origin of Item A):

| Method | Number of Reported Uses of this Method | Percentage of Responding Labs Using this Method |
|---|---|---|
| Acid Phosphatase Determination | 98 | 76.6% |
| Microscopic Examination | 77 | 60.2% |
| Bright Field | 37 | 28.9% |
| Phase Contrast | 15 | 11.7% |
| Starch Amylase | 74 | 57.8% |
| Blood group Determination | 61 | 47.7% |
| Microcrystalline | 19 | 14.8% |

Table 4b

Frequency of the Methods Reported in Response to Question 2b

Question 2b: The following tests were conducted to arrive at the answer to Question 2a (regarding the origin of Item B):

| Method | Number of Reported Uses of this Method | Percentage of Responding Labs Using this Method |
|---|---|---|
| Acid Phosphatase Determination | 120 | 93.8% |
| Microscopic Examination | 109 | 85.2% |
| Bright Field | 62 | 48.4% |
| Phase Contrast | 37 | 30.9% |
| Blood Group Determination | 84 | 65.6% |
| Microcrystalline | 47 | 36.7% |
| Starch Amylase | 30 | 23.4% |

Table 4c

Summary of Responses to Question 1a of Those Labs Reporting Use of Starch Amylase Determination in Question 1b

| Response | Number of Labs Reporting this Response |
|---|---|
| Inconclusive | 8 |
| Saliva, tentatively | 43 |
| Saliva, conclusively | 21 |
| Vaginal, conclusively | 1 |
| Non-seminal | 1 |

Table 4d

Summary of Responses to Question 1a of Those Labs Not Reporting Use of Starch Amylase Determination in Question 1b

| Response | Number of Labs Reporting this Response |
|---|---|
| Inconclusive | 29 |
| Saliva, tentatively | 4 |
| Saliva, conclusively | 2 |
| Non-seminal | 15 |
| Vaginal, tentatively | 1 |
| Vaginal, conclusively | 1 |
| No Response | 2 |

Table 4e

Stains Used by Those Laboratories Reporting Bright Field as a Response to Question 1b or 2b

| Stain | Number of Reported Responses in Question 1b | Number of Reported Responses in Question 2b |
|---|---|---|
| Kernechtrot & Picroindigocarmine | 8 | 13 |
| Gram's Stain | 4 | 5 |
| Carboleosin Fuchsin | 4 | 3 |
| Baecchis | 3 | 2 |
| Hematoxylin/Eosin | 3 | 6 |
| Gentian Violet | 1 | 4 |
| Crystal Violet | 2 | 2 |
| Hematoxylin | 1 | 1 |
| Giemsa Stain | 1 | 1 |
| Aceto-orcein | 2 | 1 |
| Wright | 1 | 2 |
| Methylene Blue and Eosin | 1 | 1 |
| Methylene Blue | 1 | 1 |
| Basic Fuchsin | 1 | 2 |
| Lugol's Stain | 1 | 1 |
| Methylene Blue & Basic Fuchsin | 0 | 1 |
| Saffranin | 0 | 2 |
| Eosin | 0 | 2 |
| Phenosaffrine | 0 | 1 |
| Papanicolaou | 0 | 1 |
| No Staining | 2 | 4 |

Table 4f

Substrates and Dyes Used by Those Laboratories Reporting Acid Phosphatase Determination As a Response to Question 1b or 2b

| Substrate | Number of Labs Reporting Use of this Substrate in 1b | Number of Labs Reporting Use of this Substrate in 2b |
|---|---|---|
| α- naphthyl Phosphate | 83 | 102 |
| Thymolphthalein Monophosphate | 4 | 5 |
| Walker | 3 | 4 |
| Phosphatesmo KM | 2 | 2 |
| SAP | 1 | 1 |
| 4-methylumbelliferyl Phosphate | 1 | 1 |
| p-nitrophenyl Phosphate | 1 | 1 |
| Phosphatabs Acid | 0 | 3 |
| Disodium Monophenyl Phosphate | 0 | 2 |

| Dye | Number of Labs Reporting Use of this Dye in Response to Question 1b | Number of Labs Reporting Use of this Dye in Response to Question 2b |
|---|---|---|
| Brentamine Fast Blue B | 50 | 60 |
| Anthraquinone 1-diazonium chloride | 13 | 16 |
| Naphthanil Diazo Red AL | 6 | 8 |
| Diazo Blue | 5 | 6 |
| Tetrazotized o-Dianisidine | 5 | 10 |
| Fast Navy Blue RA | 3 | 3 |
| Diazo Red RC | 3 | 4 |
| Fast Red AL | 2 | 2 |
| Diazotized 5-nitro anisidine | 2 | 2 |
| Folin-Ciocalteau | 0 | 1 |

Table 4g

Type of Microcrystalline Tests Performed by Those Laboratories Reporting Microcrystalline Tests as a Response to Question 1b or 2b

| Test | Number of Labs Reporting this Test in Question 1b | Number of Labs Reporting this Test in Question 2b |
|---|---|---|
| Florence Test | 17 | 44 |
| Barberios | 4 | 1 |
| Choline | 3 | 1 |
| Lugol's | 0 | 1 |
| Tetramethylbenzidine | 1 | 0 |

Table 5

| Lab Code | Responses to Questions 1a and 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | | *See Table 5a for Details |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright field | Acid Phosphatase | Starch Amylase | Micro-Crystalline | Blood Group Determination | OTHER | |
| 201 | 1a) tent. saliva 2a)conc. seminal | X | | X | | X | | | * | X | | X | X | | | X | | * |
| 202 | 1a)tent. saliva 2a)conc. seminal | x | | | | x | | x | | x | | | x | | | x | | |
| 205 | 1a)non-semi. 2a)concl. seminal | x | | | x | | x | | | x | | x | | | x | x | | |
| 207 | 1a)tent. saliva 2a)conc. seminal | X | | | X | X | | | | X | | X | X | | | | | |
| 209 | 1a)tent. saliva 2a)conc. seminal | | | | | | | | | | | | | | | | | * |
| 210 | 1a)tent. non-semin. 2a)tent. seminal | X | | | X | | | | | X | | | X | | | | | |
| 211 | 1a)tent. saliva 2a)tent. seminal | | | | | | | | | | | | | | | | | |
| 212 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | | | X | | | X | X | | | | * |
| 214 | 1a)tent. saliva 2a)conc. seminal | X | | | X | X | | X | | X | X | | X | X | | X | | |
| 215 | 1a)tent. saliva 2a)tent. semen | X | | X | X | X | X | X | | X | | X | X | X | X | X | | |
| 216 | 1a)tent. saliva 2a)conc. semen | | X | | X | X | | X | | | X | | X | X | | X | | |
| 217 | 1a)conc. saliva 2a)conc. semen | X | | | X | | | | | X | | X | X | | | | | |
| 218 | 1a)conc. saliva 2a)conc. seminal | | | | X | X | | | | X | X | | X | X | X | | | |
| 219 | 1a)inconc. 2a)conc. seminal | | | X | X | | X | X | | X | | X | X | | X | X | | |
| 224 | 1a)non-seminal 2a)concl. seminal | X | | X | | | | | | X | | X | X | | | X | | |
| 225 | 1a)tent. saliva 2a) conc. seminal | | | | X | X | | X | | X | X | X | X | | | X | | |
| 227 | 1a)inconc. 2a)conc. seminal | X | | | X | | | | * | X | | | X | | | X | | * |
| 236 | 1a)tent. saliva 2a)conc. seminal | X | | X | | X | | X | | X | | X | X | | | X | | |

| Lab Code | Responses to Questions 1a & 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | | * See Table 5a for Details |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | |
| 238 | 1a)tent. saliva 2a)conc. seminal | X | X | | X | X | | | | X | X | X | X | X | | | | |
| 239 | 1a)tent. saliva 2a)conc. seminal | X | | X | X | X | | X | | | | X | X | | X | X | | |
| 247 | 1a)conc. saliva 2a)conc. seminal | | | | | X | | X | | | X | | | | | X | | |
| 249 | 1a)tent. saliva 2a)conc. seminal | | | | | X | | X | | X | X | X | X | | X | X | | |
| 250 | 1a)inconc. 2a)conc. seminal | X | X | | X | | | | * | X | X | X | X | | | | | * |
| 252 | 1a)conc. saliva 2a)tent. seminal | X | | X | X | X | X | | | X | | X | X | | X | X | | |
| 253 | 1a)non-seminal 2a)tent. seminal | X | | | X | | | | | X | | | X | | | | | |
| 254 | 1a)inconc. 2a)conc. seminal | X | X | | X | X | | | * | X | X | X | X | | | | | |
| 256 | 1a)tent. saliva 2a)conc. seminal | X | X | | | X | | X | | X | X | | X | | | X | | * |
| 257 | 1a)conc. saliva 2a)conc. seminal | X | | X | | X | | X | | X | | X | X | | | X | | |
| 258 | 1a)conc. saliva 2a)conc. seminal | | | | | X | | X | | X | X | | X | | X | X | | * |
| 260 | 1a)conc. saliva 2a)conc. seminal | X | | | X | X | | X | | X | X | | X | | | X | | |
| 261 | 1a) conc. vaginal 2a)conc. seminal | X | | X | X | X | | X | | X | | X | X | X | X | X | | |
| 262 | 1a)conc. saliva 2a)conc. seminal | X | | | X | X | | X | | X | | X | X | X | X | X | | |
| 266 | 1a)inconc. 2a)conc. seminal | X | | | X | X | | | | X | | | X | X | X | | | * |
| 270 | 1a)inconc. 2a)conc. seminal | X | | X | | | | | | X | | X | | | | | | |
| 271 | 1a)conc. saliva 2a)concl. seminal | X | X | X | X | X | | X | | X | X | X | X | X | X | X | | * |
| 273 | 1a)inconc. 2a)conc. seminal | X | | X | X | | X | | | X | | X | X | | X | | | |

| Lab Code | Responses to Questions 1a and 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | *See Table 5a for Details OTHER |
| 277 | 1a)tent. saliva 2a)tent. seminal | X | | X | X | | X | X | * | X | | X | X | | X | X | * |
| 278 | 1a)inconc. 2a)concl seminal | X | | | X | | | | * | X | | | X | | | | * |
| 282 | 1a)tent. saliva 2a)conc. seminal | X | | | X | X | | X | | X | | X | X | | X | X | *" |
| 285 | 1a)inconc. 2a)conc. seminal | X | X | | X | X | | | | | | | X | | | X | |
| 290 | 1a)conc. saliva 2a)conc. seminal | | | | | X | | | | X | | X | X | | X | | |
| 291 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | X | | X | | X | X | | | | * |
| 292 | 1a)tent. saliva 2a)conc. seminal | | | | | X | | X | | | X | | X | | | X | |
| 295 | 1a)tent. saliva 2a)conc. seminal | | | | | X | | X | | | X | | X | X | | X | |
| 297 | 1a)conc. saliva 2a)concl. seminal | | | | X | X | | X | | X | X | | X | X | X | X | |
| 300 | 1a)inconc. 2a)conc. seminal | | | | X | | | X | | | | | X | | | X | |
| 303 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | X | | X | | X | X | X | X | X | |
| 307 | 1a)conc. saliva 2a)concl. seminal | | | | X | X | | X | | | | | X | | | X | |
| 309 | 1a) conc. saliva 2a)conc. seminal | | | | X | X | | | | | | X | X | | X | | |
| 310 | 1a)non-sem. 2a)conc. | X | | X | | | | | | X | | X | X | | | X | |
| 312 | 1a)tent. saliva 2a) conc. seminal | X | | X | X | X | | X | | X | | X | X | X | X | X | |
| 313 | 1a)non-seminal 2a)conc. seminal | | | | X | | X | | | | X | | X | | X | X | |
| 317 | 1a)tent. saliva 2a)concl. seminal | X | | X | X | X | | X | * | X | | X | X | X | | X | * |
| 319 | 1a)non-seminal 2a)conc. seminal | | | | X | | | | * | | X | | X | | | | * |

| Lab Code | Responses To Question 1a & 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | *See Table 5a for Details OTHER |
| 320 | 1a)inconc. 2a)conc. seminal | | | | X | X | | | | X | X | | X | | X | X | |
| 322 | 1a)t ent. saliva 2a)concl. seminal | | | | | X | | X | | X | | X | X | | | X | |
| 324 | 1a)conc. saliva 2a)conc. seminal | X | | | X | X | | X | | X | | | X | | | X | |
| 325 | 1a)No Resp. 2a)tent. seminal | | | | X | | | | | | | | X | | | X | |
| 326 | 1a)inconc. 2a)tent. seminal | X | | | X | | X | | * | X | | X | X | | | X | |
| 331 | 1a)non-sem. 2a)concl seminal | X | | X | X | X | | | | X | | X | X | | | X | |
| 337 | 1a)tent. saliva 2a)conc. seminal | | | X | X | X | X | X | | | | X | X | X | X | X | |
| 340 | 1a)inconc. 2a)conc. seminal | | | | X | X | | | * | X | X | | X | | X | X | * |
| 341 | 1a)inconc. 2a)conc. seminal | X | | | X | | X | | | X | | | X | | X | X | * |
| 345 | 1a)conc. saliva 2a)conc. seminal | X | | X | X | X | | X | * | X | | X | X | X | | X | * |
| 351 | 1a)tent. saliva 2a)conc. seminal | X | | | X | X | | X | | X | | | X | X | | X | |
| 353 | 1a)inconc. (non-semen) 2a)conc. seminal | X | | X | | | | X | | X | | X | | | | X | |
| 356 | 1a)tent. saliva 2a)tent. seminal | X | | | X | | | X | * | X | | | X | | | X | * |
| 359 | 1a)tent. saliva 2a)tent. seminal | | | | X | X | | | | X | | | X | | | | |
| 366 | 1a)conc. saliva 2a)conc. seminal | X | X | | X | X | | X | | X | X | | | X | | X | |
| 370 | 1a)Tent. saliva 2a)tent. seminal | X | | | X | X | | X | * | X | | | X | X | | X | * |
| 371 | 1a)tent. vaginal 2a)conc. seminal | X | | | X | | | | | X | | X | X | | | | |
| 374 | 1a)inconc. (non-sem.) 2a)conc. seminal | X | X | X | X | | | | | X | X | X | X | | | X | |

| Lab Code | Responses to Questions 1a and 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | *See Table 5a for Details OTHER |
| 375 | 1a)tent. saliva 2a)conc. seminal | | | | | X | | X | * | X | X | X | X | | | X | * |
| 376 | 1a)non-seminal 2a)conc. seminal | X | | | X | | | | | X | | | X | | | | |
| 379 | 1a)inconc. 2a)conc. seminal | | | | X | | | | * | X | | | X | | | | * |
| 380 | 1a)tent. saliva 2a)conc. seminal | X | X | X | X | | X | X | * | X | X | X | X | | X | X | * |
| 384 | 1a)inconc. 2a)conc. seminal | X | | X | X | | | | | X | | X | X | | | X | |
| 387 | 1a)tent. saliva 2a)conc. seminal | X | | X | X | X | | X | * | X | | X | X | X | | X | * |
| 388 | 1a)inconc. 2a)conc. seminal | X | | | X | X | X | X | * | X | | | X | X | X | X | * |
| 389 | 1a)inconc. 2a)tent. seminal | | | | X | | | | | | | | | X | | | |
| 390 | 1a)tent. saliva 2a)conc. seminal | X | | X | | X | | X | * | X | | X | X | | X | X | * |
| 391 | 1a)inconc. 2a)conc. seminal | X | | X | X | | | | | X | | X | X | | | | |
| 397 | 1a)No respon. 2a)tent. seminal | X | | | X | | | | | X | | X | X | | X | | |
| 398 | 1a)Human saliva 2a)conc. seminal | | | | | X | | X | * | X | | | X | | X | X | * |
| 401 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | | | | | | X | | | X | |
| 402 | 1a)tent. saliva 2a)conc. seminal | X | | | X | X | | | | X | | | X | | | X | |
| 405 | 1a)inconc. 2a)conc. seminal | | | | X | | | | | | X | | X | | | | |
| 406 | 1a)non-semin 2a)concl. seminal | | | | X | | | | | X | X | | X | | | X | |
| 408 | 1a)tent. saliva 2a)conc. seminal | X | | X | X | X | X | | | X | | X | X | | X | | |
| 416 | 1a)inconc. 2a)tent. seminal | X | X | | X | | | | | X | X | | X | | | | |

| Lab Code | Responses to Questions 1a and 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determin ation | *See Table 5a for Details OTHER |
| 418 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | X | * | X | | | X | X | | X | * |
| 422 | 1a)non-seminal 2a)conc. seminal | | | | X | | | | | X | | X | X | | | X | |
| 428 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | | | X | X | | X | | | | |
| 429 | 1a)conc. saliva 2a)conc. seminal | | | | | X | | X | | X | | X | X | | X | X | |
| 430 | 1a)inconc. 2a)conc. seminal | X | | | X | | | X | | X | | | X | | | X | |
| 431 | 1a)conc. saliva 2a)conc. seminal | X | | X | X | | | X | * | X | | X | X | X | | X | * |
| 432 | 1a)inconc. 2a)conc. seminal | X | | | X | | | | | X | X | | X | | | | |
| 433 | 1a)concl. saliva 2a)conc. seminal | | | | X | | | X | | | X | | X | | | X | |
| 437 | 1a)inconc. 2a)conc. seminal | X | | | X | | | | | X | X | | X | | | | |
| 438 | 1a)Inconc. 2a)Conc. Seminal | X | | | X | | X | | * | X | | | X | | X | X | * |
| 443 | 1a)non-seminal 2a)tent. seminal | | | | | | | | | X | | X | X | | | | * |
| 444 | 1a)tent. saliva 2a)conc. seminal | X | X | X | | X | | X | | X | X | X | X | | X | X | |
| 445 | 1a)inconc. 2a)conc. seminal | | | | X | | | | | X | | X | X | | | | |
| 449 | 1a)conc. saliva 2a)conc. seminal | X | | X | X | X | | X | * | X | | X | X | | X | X | |
| 450 | 1a)tent. saliva 2a)conc. seminal | X | | | X | X | | X | | X | | | | X | | X | |
| 452 | 1a)conc. saliva 2a)conc. seminal | | | | X | X | | X | | X | | X | X | | | X | * |
| 453 | 1a)tent. saliva 2a)conc. seminal | X | | X | | X | | X | * | X | | X | X | X | | X | |
| 455 | 1a)tent. saliva 2a)conc. seminal | X | X | | X | X | | X | | X | X | | X | X | X | X | |

| Lab Code | Responses to Questions 1a and 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Deterionation | *See Table 5a for Details OTHER |
| 458 | 1a)inconcl. 2a)concl. seminal | X | | | X | X | X | | * | X | | X | X | | X | X | * |
| 462 | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | X | | X | X | X | X | | | X | |
| 465 | 1a)conc. vaginal 2a)conc. seminal | X | | X | X | | | | | X | | X | X | | | | |
| 468 | 1a)conc. saliva 2a)conc. seminal | | | | X | X | | X | | X | | | X | X | | X | |
| 470 | 1a)inconc. 2a)inconc. | | | | | | | | | | | | | | | | |
| 472 | 1a)conc. saliva 2a)conc. seminal | X | | X | | X | | X | | X | | X | X | | X | X | |
| 473 | 1a)indicative saliva 2a)conc. seminal | X | X | | | X | | | | X | X | | | | | | |
| 474 | 1a)tent saliva 2a)conc. seminal | X | | X | X | X | | | | X | | X | X | X | X | X | |
| 475 | 1a)inconc. 2a)tent. seminal | X | | | X | | X | | * | X | | | X | | X | | * |
| 476 | 1a)inconc. 2a)conc. seminal | X | | | | | | | | X | | | | | | | |
| 478 | 1a)inconc. 2a)conc. seminal | | | | | | | | | X | X | X | X | | | | |
| 479 | 1a)inconc. 2a)inconc. | X | | | X | X | | | * | X | | | X | X | | | * |
| 480 | 1a)tent. saliva 2a)conc. seminal | | | | | X | | X | | X | | | X | | | X | |
| 481 | 1a)inconc. 2a)conc. seminal | | | | X | | | | | X | | | X | | | X | |
| 482 | 1a)inconc. 2a)tent. seminal | X | X | X | | | | | | X | X | | X | | | X | |
| 483 | 1a)inconc. 2a)tent. seminal | X | | X | X | | X | X | | X | | X | X | | X | X | |
| 493 | 1a)tent. saliva 2a)conc. seminal | | | | X | | | | | X | | | X | | | | |
| 499 | 1a)inconc. 2a)conc. seminal | X | | | X | | X | | * | X | | | X | | X | | * |

| Lab Code | Responses to Questions 1a amd 2a | Response to Question 1b | | | | | | | | Response to Question 2b | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | OTHER | Microscopic Examination | Phase Contrast | Bright Field | Acid Phosphatase | Starch Amylase | Micro-crystalline | Blood Group Determination | *See Table 5a for Detai s OTHER |
| 1000 | 1a)non-seminal 2a)conc. seminal | | | | X | | | | | | | X | X | | | | |
| 1000 A | 1a)tent. saliva 2a)conc. seminal | | | | X | X | | X | | X | X | X | X | X | | X | * |
| | | | | | | | | | | | | | | | | | |
| | Note: It is asked that labs 1000 | | | | | | | | | | | | | | | | |
| | and 1000A identify themselves | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

Table 5a

Methods Reported under Other Category in Questions 1b and 2b

| Lab Code | Question 1b Response | Question 2b Response |
|---|---|---|
| 201 | 1. pH of unknown stain extract<br>2. Thiocyanite Test, Mucin test<br>3. Physical Heat Test for Urine | 1. Anti-human Precipitin Test<br>2. Microscopic measurement of spermatozoa |
| 209 | Anti-human semen | Anti-human semen |
| 212 | | Long & short wave UV light |
| 227 | Species anti-human semen serum<br>Anti-human serum<br>UV light | Same as for Question 1b |
| 250 | Seminal Acid Phosphatase differentiation by electrophoresis by the method of Adams and Wraxall | Same as for Question 1b |
| 254 | $AgNO_3$- for presence of chloride ion | |
| 256 | | PGM - PGM 1-1<br>Pep A Pep A 1-1 |
| 258 | | Ouchterlony |
| 266 | | UV light |
| 271 | | PGM 1-1 |
| 277 | Amylase Azure Technique for ID of saliva - Hydrolysis of Amylase Azure (a non-water soluble compound) by amylase results in the liberation of a soluble blue dye | PGM |
| 278 | UV lamp | UV lamp |
| 282 | | PGM 1 |
| 291 | | PGM type 1-1 or 2-1 |
| 317 | UV light | UV light |
| 319 | Anti-human serum precipitin serum | Same as 1b |

Table 5a continued

| Lab Code | Question 1b Response | Question 2b Response |
|---|---|---|
| 326 | UV light | UV light |
| 340 | UV light<br>Immunoelectrophoresis for species | Immunoelectrophoresis |
| 341 | | UV and phenolthalin |
| 345 | UV light | |
| 351 | Thiocyanate ions present | |
| 356 | Fluorescence | Fluorescence |
| 370 | UV light - short and long | Same as 1b |
| 375 | Testing - Precipitin | Same as 1b |
| 379 | Determine presence of blood | Same as 1b |
| 380 | Secretor factor sought | Same as 1b |
| 387 | Precipitin test (cross-over electrophoresis with anti-human semen serum) | Same as 1b |
| 388 | Urease | Same as 1b |
| 390 | Anti-human serum,<br>Ouchterlony<br>Crossed immunoelectropharesis | Same as 1b |
| 398 | Anti-human (Ring Precipitin) | Same as 1b |
| 418 | Florence for choline | |
| 431 | Heated aqueous extract - observed odor (none)<br>UV long and short wave length | Florence test<br>UV long and short |
| 438 | Precipitin reaction - Anti-human semen sera | Same as 1b |
| 443 | | Florence test |
| 449 | Ferric chloride test for thiocyanate | |

Table 5a continued

| Lab Code | Question 1b Response | Question 2b Response |
|---|---|---|
| 452 | | Electro-immunodiffusion in agar using Behring anti-human sperm and staining with regular acid phosphatase detection dye. |
| 453 | Long-wave Fluorescence | |
| 458 | Urea test<br>Creatinine Test | Same as 1b |
| 475 | Precipitin | Precipitin |
| 479 | UV light | UV light |
| 499 | UV light | UV light |

END