

**Forensic Analytical**

February 27, 2004

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COPY

Re: FSD Case #: 20000307  
Peo. vs. Hooman Panah

Dear Mr. Bryan:

I have had the opportunity to review the reports issued by the Los Angeles Police Department Forensic Laboratory with regard to the above referenced case. I have also received an assortment of analytical notes pertaining to the serology and DNA analyses conducted. Refer to my letter dated November 3, 2000 for a list of discovery items received. The November 3, 2000 letter also documents a number of items related to the serology and DNA analyses which were **not** provided for review. It is my understanding that numerous requests have been made to LAPD for these items. In addition to the laboratory reports and notes I have also reviewed the following transcripts:

- Grand Jury transcript of LAPD Criminalist William Moore P233-250
- Trial transcript of LA County Coroner Criminalist Lloyd Mahanay P1964-1989
- Trial transcript of LAPD Criminalist Robert Monson P1989-2015
- Trial transcript of LAPD Criminalist William Moore P2015-2033 and P2054-2142

My impressions based on the information I have been provided with are as follows:

The reports dated March 4, 1994, January 5, 1994 and October 19, 1994 describe the serological analysis of evidence items related to the murder and alleged sexual assault of Nicole Parker. The reports dated May 24, 1994, October 6, 1994 and October 26, 1994 describe the DNA analyses conducted. I understand the circumstances of evidence collection to be as follows; Ms. Parker's body was found in a suitcase in the closet at 20564 Ventura Blvd., #122, Mr. Panah's residence. The body was wrapped in a sheet. Following discovery, the decedent was placed on a bed in the room and sexual assault evidence samples were collected (*Transcript of Lloyd Mahanay P1982 LI-11*).

It is not clear why the Coroner's office chose to process the body at the crime scene, risking transfer of biological materials to the sheet or body. It would not be unreasonable to expect that

body fluids from Ms. Parker would be transferred to the sheet during the time she was wrapped in it or during the subsequent sexual assault examination which took place on top of the sheet. The sheet was later examined for evidence of body fluids from Ms. Parker and the history of the sheet must be considered in any interpretation of the examination conducted.

A blue bath robe, also described as a kimono, was recovered from the bed in the bedroom, where it was reportedly bundled with other items from the bed (*Transcript of Robert Monson, P1996 L9-13*). In order to prevent cross contamination, evidence items should have been collected and packaged separately. The robe was later examined for body fluids from Ms. Parker and Mr. Panah. It is not clear from the notes received whether there were body fluid stains on the other items contained within the bundle. (There is no notation as to whether items contained within the bundle were dry upon collection and packaging. It is important to consider the possibility of cross-transfer among items in any interpretation of body fluids from the robe.)

Bloodstains were collected from the bathroom and a tissue paper with a beige colored stain on it was recovered from the waste basket in the bathroom. A "field test" for semen (presumably a test for acid phosphatase, an enzyme found at high concentrations in semen and lower concentrations in other body fluids) was conducted on the stain with positive results (*Transcript of Robert Monson, P1997 L26 - P1998 L3*). The acid phosphatase test provides an indication that semen may be present. Further testing was conducted which established conclusively the presence of semen on the tissue.

The following items of evidence were examined by the LAPD laboratory as part of this inquiry.

(Sexual Assault Evidence Kit of Nicole Parker (Item #67))

The sexual assault evidence collected from Ms. Parker included the following items:

- Item #67A Vaginal swabs (4)
- Item #67B Vaginal slides (2)
- Item #67C External genital swabs (2)
- Item #67D External genital slides (2)
- Item #67E Oral swabs (2)
- Item #67F Oral slides (2)
- Item #67G Anal swabs (2)
- Item #67H Anal slides (2)
- Item #67I Right nipple swab (1)
- Item #67J Left nipple swab (1)
- Item #67K Body surface control swab (1)

The objective of the analysis of the sexual assault kit was to determine whether there was evidence of intimate contact between the assailant and Ms. Parker. The analysis involved screening of items contained within the sexual assault kit for body fluids, such as semen or



saliva, from the assailant. It is, of course, possible for contact or penetration to have occurred without the presence of semen or saliva in scenarios involving use of a condom, no or very limited ejaculation, or penetration with a foreign object. The activity of the victim prior to death and the post-mortem interval (time between sexual contact and recovery of body fluids) are also important in establishing whether semen or saliva would persist in or on the body of the victim.

The vaginal slides, external genital slides, oral slides and anal slides were examined microscopically for the presence of spermatozoa. No spermatozoa were detected on any of these items.

Cellular material was extracted from the vaginal swabs, external genital swabs, oral swabs and anal swabs. Portions of each extract were examined microscopically for spermatozoa with negative results. Analysis of the vaginal and external genital swab extracts also yielded negative results for acid phosphatase.

The oral and anal swabs yielded positive results for the presence of acid phosphatase and were further tested for P30, a male specific protein. Detection of either P30 or spermatozoa is considered a positive indication of the presence of semen. P30 was not detected in the extract from the oral and anal swabs. It is possible that decomposition of the victim may have contributed to the positive acid phosphatase findings.

No semen was detected on items 67A through 67H. Although this is indicated in the analytical report dated March 4, 1994, the direct testimony of LAPD Criminalist William Moore implies that semen is indicated by the positive findings of acid phosphatase (*Transcript P2029 L24-28*). The cross examination of Mr. Moore by Mr. Sheahan is reasonably successful in clarifying these results as Mr. Moore acknowledges that "The presence of semen was not conclusively established on any of the items packaged in the coroner's sexual assault kit" (*P2099 L4-6*).

Extracts of the right nipple swab, left nipple swab and body surface control swab were analyzed for the presence of amylase. No significant quantity of amylase was detected. No saliva was detected on items 67I through 67K. X

As there was no evidence of body fluids from Hooman Panah on items contained within the sexual assault kit of Nicole Parker, the biological evidence analysis does not corroborate a finding of sexual assault.

Tissue paper bearing stains (item #52) X

As mentioned, the tissue paper was recovered from the waste basket in the bathroom at Mr. Panah's residence. The item is described in various locations as a piece of toilet tissue with a beige stain, yellow stains and a light pink stain. The light pink stain is not further characterized as to whether it is possibly blood or non-biological in origin. A sample was removed from the "central area" for analysis and cellular material was extracted from the sample. A portion of the



extract was examined for spermatozoa. A moderate number of spermatozoa were detected indicating the presence of semen on the tissue. The extract was also tested for amylase. The quantity of amylase detected was equivalent to approximately a 1:100 dilution of saliva based on comparison to a saliva standard of known dilution. The notes indicate that Mr. Moore used his own saliva as a standard. Given the variation of amylase present in other body fluids such as semen and urine, as well as in saliva from different sources, it is not possible to definitively ascertain the presence of saliva based on such a low quantity. Further characterization of the source of the amylase enzyme to determine whether it is of salivary or pancreatic origin may have resolved this issue.

Genetic marker typing conducted on the stain area from the tissue and on known reference samples from Hooman Panah and Nicole Parker produced the following results (*from Analyzed Evidence Report dated March 4, 1994*).

Item #	Description	ABO (H) Activity	PGM	PGM Sub	Pep-A
52	Tissue stain	ABH	Inc	2+1+	1
35	H. Panah reference	B	2-1	2+1+	Inc
68	N. Parker reference	A	1	1+1-	1

There is no evidence that would allow a determination of the number of contributors to this stain. Therefore, the following possible interpretations for the data above are as follows; assuming a single source, the results obtained for the tissue stain indicate a donor with ABO type AB, PGM subtype 2+1+ and Pep-A type 1. This interpretation would exclude both Hooman Panah and Nicole Parker. The typing results may also be the result of a mixture of more than one contributor. Under this scenario, Mr. Panah cannot be eliminated as a contributor as both his ABO type (B) and PGM subtype (2+1+) are detected in the stain. Assuming that Mr. Panah is a contributor, the ABO type A which is detected is foreign. Therefore any type A or type AB individual would be included as a contributor. Individuals who are type A or AB comprise approximately 39.8% of the Caucasian population and 46.6% of the Asian population (*Journal of Forensic Sciences 1978 23(3):582*). The ABO blood group refers to surface antigens detected on red blood cells. The majority of the population (approximately 70-80%) also secrete blood group substances into their body fluids, such as semen and saliva. Mr. Panah was determined to be a secretor by typing his saliva sample for ABO. Ms. Parker's secretor status is unknown. If Ms. Parker is a non-secretor she could not be the source of the type A detected in the tissue stain sample.

The Pep-A results are suspect. The results for Hooman Panah's reference sample (item #35) and for Ms. Parker's reference sample (item #68) produced identically recorded results. The "Electrophoresis Worksheet" dated December 27, 1993 indicates that, for both samples, the type 1 recorded by Criminalist Moore could not be verified by the second reader. The second reader (initials "LR") notes the Pep-A result as "INC 2-1" for both reference samples. There are no notes provided which indicate that repeat typing may have been done. Ms Parker's Pep-A type is reported as "INC" (inconclusive) in the January 5, 1994 report and as type 1 in the March 4, 1994



and July 12, 1994 reports. In the absence of repeat typing, Ms. Parker's Pep-A type should have been reported as inconclusive. Mr. Panah's Pep-A type is consistently reported as "INC" (inconclusive). If Hooman Panah is a type 2-1 at Pep-A he is eliminated as a contributor to the tissue semen sample. 8

**No photographs of the PGM and Pep-A typing results were received for review.**  
**Confirmation of the reported types would require examination of photographic data.**

DNA analysis was performed on the tissue stain using a differential extraction procedure. The differential extraction process physically separates the sperm cells (which have a much tougher cell wall) from the epithelial cells (such as those which line the vaginal canal, mouth or rectum), resulting in two separate DNA extracts. The DNA extracts were analyzed for a single genetic marker, DQ-alpha. The notes do not indicate whether epithelial cells were detected upon microscopic examination of a portion of the extract. One would expect that a mixture of semen and saliva would contain a detectable quantity of epithelial cells. DQ-alpha type 1.3, 4 was obtained for both the sperm and epithelial cell fractions. Mr. Panah is a type 1.3, 4, therefore, he cannot be eliminated as the source of the DNA from both fractions. Ms. Parker is a type 2, 4, therefore, she is eliminated as a contributor to the tissue stain sample. 8 X

The DNA typing results do not support the hypothesis that the tissue stain contains a mixture of body fluids from Nicole Parker and Hooman Panah. It is my understanding that the DNA results were not presented at Mr. Panah's trial. The DNA results contradict the State's assertion that the sample from the tissue contained a mixture of body fluids from Hooman Panah and Nicole Parker. X

#### Stains from bed sheet. Item #55

This item consisted of the bed sheet which had been wrapped around the body of the decedent. The sheet was examined for the presence of body fluids. Human blood, semen and saliva were reportedly detected on the sheet. The notes indicate that multiple stains were excised from the bed sheet, however, the appearance and relative locations of the stains are not documented. The prosecution alleged in this case that the finding of stain areas containing mixtures of body fluids from Mr. Panah and Ms. Parker suggested sexual contact. Therefore, it is important to determine whether areas of blood, semen and saliva staining may have overlapped as well as to examine the distribution of these body fluids relative to one another. It is also important to consider whether Ms. Parker's body fluids transferred to the sheet as she was wrapped in it or during the sexual assault examination, which took place while she was lying on the sheet. The pattern of staining is not documented within the notes in the form of a sketch or diagram. Therefore, the relationship of the stains to one another cannot be ascertained without examining the sheet itself.

The pattern of biological material on the sheet is also important in order to determine the validity of testimony given by Mr. Moore at trial where he states that the pattern observed could be consistent with the "spewing of semen across the bed sheet" (W. Moore trial transcript P2067 L



27 to P2068 L 8). Prior to an objection by defense counsel, Mr. Moore is asked "Assuming, as a hypothetical, a situation where there was an act of oral copulation and ejaculation was initiated by the defendant, and the victim then spit out --". The objection precludes his assessment of this hypothetical, however, Mr. Moore further testifies that the stains could not "have come solely...from an ejaculatory process like masturbation". (*W. Moore trial transcript P2073 L19-23*).

It appears that the reports dated January 5, 1994 and March 4, 1994 document the analysis of two different stains from the sheet. The January 5, 1994 report documents the typing of a bloodstain (described in the analytical notes as stain "A") on the sheet. The following typing results were obtained from this stain:

Item #	Description	ABO	EsD	PGM	PGM Sub	EAP	ADA	AK	Pep-A
55	Stain from bed sheet	ind AB	1	1	1+1-	BA	INC	1	1
55 con	Control from bed sheet	ind B							
35	H. Panah reference	B	1	2-1	2+1+	BA	1	1	INC
68	N. Parker reference	A	1	1	1+1-	BA	1	1	INC

X There is no evidence that would allow a determination of the number of contributors to this stain. Assuming a single contributor of ABO type AB, both Hooman Panah and Nicole Parker would be eliminated as contributors to this stain. Assuming a mixture is present, Nicole Parker cannot be eliminated as a contributor to this stain; however, she could not be the source of the ABO type B detected in the stain. It is not possible to determine how or when this bloodstain may have been deposited on the sheet. Type B was also detected in the background control sample for the sheet. This suggests that the type B in the stain could be due to a background source of biological material on the sheet. As this is likely a sheet from Mr. Panah's bed and he is a type B secretor, it would not be unreasonable to find type B on the bed sheet. Therefore, this result does not provide strong evidence of a mixture of body fluids from Hooman Panah and Nicole Parker. *JB*

The report dated March 4, 1994 indicates that both semen and saliva were detected in the extract of another stain from the sheet (described in the analytical notes as stain "3"). The amylase activity present in the stain was greater than that of the 1:100 saliva standard and less than that of the 1:10 saliva standard. The presence of amylase on a sheet would not be an unusual finding.

The finding of amylase activity on the sheet does not allow a determination of whether any saliva was deposited at the same time as the semen in a particular area; nor does it allow a determination of the individual who deposited the saliva.

Typing results were obtained as follows:

Item #	Description	ABO (H) Activity	PGM	PGM Sub	Pep-A
55	Stain from bed sheet	ABH	N/A	N/A	N/A
55 con	Control from bed sheet	B			
35	H. Panah reference	B	2-1	2+1+	Inc
68	N. Parker reference	A	1	1+1-	1

N/A = No Activity

The serological analysis does not allow exclusion of any individual including Hooman Panah and Nicole Parker, as all possible ABO types would be included as contributors to a mixture. Mr. Panah could be the source of the type B detected in the control area from the bed sheet. The control area is likely an area outside the detected stain which is sampled to ascertain whether there is any "background" source of genetic material. Because no semen or saliva was detected in this sample, these results indicate that there is detectable type B blood group substance on the bed sheet from an unknown body fluid source (possibly perspiration).

DNA analysis conducted on at least five stain areas from the bed sheet which contained spermatozoa either yielded "inconclusive" results or DQA1 type 1,3, 4, which is consistent with Mr. Panah's type. No DNA typing results consistent with that of Nicole Parker were obtained from any of the samples from the bed sheet. Although some of the stain areas contained spermatozoa, the DNA analyst does not note the presence of significant quantities of epithelial cells. A number of samples yielded "inconclusive" results. The meaning of the "inconclusive" finding cannot be determined without additional information such as photographic quality copies of the typing strips. The DNA typing results do not support the hypothesis that the areas tested contain a mixture of semen and saliva stains from Mr. Panah and Ms. Parker, respectively. Had Ms. Parker "spit out" ejaculate onto the bed sheet, one would have expected a) to detect spermatozoa on the oral swab and b) to detect Ms. Parker's DNA in significant quantities on the bed sheet.

Photographic quality copies of the DQA1 typing strip photographs should be obtained for review.

#### Blue silk kimono, Item #60

The blue silk kimono was examined for the presence of semen with negative results. Human bloodstains were detected on the left chest area of the kimono. Typing results obtained from the bloodstain were as follows:



Item #	Description	ABO	EsD	PGM	PGM Sub	EAP	ADA	AK	Pep-A
60	Stain from kimono	ind AB	INC	1	1+1-	BA	1	1	1
60 con	Control from kimono	N/A							
35	H. Panah reference	B	1	2-1	2+1+	BA	1	1	INC
68	N. Parker reference	A	1	1	1+1-	BA	1	1	INC

The typing results do not allow for a determination of the number of contributors to the stain. Assuming a single contributor to the stain from the kimono, Nicole Parker and Hooman Panah are eliminated as contributors. Assuming that the stain is a mixture of body fluids from more than one source, Nicole Parker cannot be eliminated as a contributor to the bloodstain on the kimono. No typing results were obtained from the control area. It is of note that the control area was excised from the lower left side of the kimono, some distance away from the bloodstained area. It would be of greater interpretative value to analyze a substrate control area which is closer to the bloodstains, as this would provide a more accurate picture of any background material in that location.

Subsequent to the ABO analysis of the stain, and in an apparent effort to determine whether a mixture of body fluids existed, Mr. Moore analyzed a cutting removed from the edge of the bloodstained area for the presence of amylase. The quantity of amylase detected was less than the quantity detected for a 1:100 dilution of saliva. This quantity is not necessarily indicative of the presence of saliva and may be the result of perspiration. Epithelial cells, which typically line the body cavities such as the mouth, vagina and rectum, were detected in this cutting. Mr. Moore provides a suspect interpretation of the findings with regard to the amylase activity and serological analysis of this stain. The conclusions appear to presume the presence of both Hooman Panah as the source of the type B antigen and Nicole Parker as the source of the type A antigen when he indicates in the July 12, 1994 report:

"Analysis for the presence of genetic markers provided conclusive results for ABO(H) antigenic activity. Given that Hooman Panah is known to be a secretor of type "B" and "H" ABO(H) antigens, the type "A" ABO(H) antigenic activity exhibited by this stain is foreign to him and could not have originated with him."

This interpretation clearly assumes Mr. Panah is the source of the B antigen detected in the stain and provides no alternate interpretation. Mr. Moore's approach is biased and indefensible. In fact, the source of the A and B antigens is unknown. The purpose of the analysis is to determine whether an individual can be eliminated as a contributor to a sample. The finding of ABH antigenic activity does not allow exclusion of anybody. Mr. Moore appears to have inferred that both blood and saliva are present and that each body fluid was contributed by a different individual. This inference is not supported by the evidence.



The conclusion continues:

"Since Nicole Parker was known to possess type "A" blood, it is possible that she contributed the type "A" antigenic activity through her saliva or other bodily secretion. However, she cannot be a sole contributor of the antigenic activity detected in this stain."

The above interpretation makes the assumption that 1) the stain is a mixture of at least two individuals, 2) one of the contributors is a type "B" secretor and 3) Ms. Parker is a type "A" secretor and could be the source of the A antigen. The failure to clearly state these assumptions renders this interpretation incomplete and misleading.

DNA analysis was conducted on a stain from the kimono. No spermatozoa or epithelial cells were detected in the examination of the cell debris pellet from this sample (presumably this stain is from the bloodstained area, however, the notes are not very clear with regard to this). DQ-alpha type 2, 4 was obtained from this sample, therefore, Nicole Parker could not be eliminated as a contributor to this sample. Hooman Panah was eliminated as a contributor to the DNA from this sample. The typing results obtained from this sample do not provide evidence of a mixture of body fluids from Nicole Parker and Hooman Panah.

Reporting of typing results for an additional cloth sample and control area from the kimono yielded inconclusive results in the epithelial cell fraction and no results in the sperm fraction. The notes do not report the finding of spermatozoa in the cloth sample, so it is unclear why a differential extraction was performed. The meaning of the "inconclusive" finding cannot be determined without additional information, such as photographic quality copies of the typing strips.

#### Fingernail Samples of Hooman Panah. Items #28-34

DNA analyses performed on fingernail samples from Hooman Panah yielded Mr. Panah's own DNA type, 1,3, 4. No types foreign to Mr. Panah's own types were detected. The circumstances of collection of Hooman Panah's fingernails samples relative to the alleged contact is unknown to me. Assuming contact did occur, the ability to detect DNA from a source other than Hooman Panah would be affected by the time frame since the contact occurred and Mr. Panah's activity in the time following contact.

#### General Issues

No photographs of serological typing results were provided. The laboratory notes in general are incomplete and omit information which may be best obtained through an examination of the actual evidence items. The opinions provided are based only on information received to date.

Quantities of DNA recovered from evidence items was not determined. Quantitation results would have provided some means of assessing relative quantities of DNA in the various stain and control areas.

Photocopies of DQ-alpha typing results are incomplete and inadequate for independent review.


The bed sheet and kimono should be re-examined in order to document the appearance and relative locations of stains. Samples from the bed sheet, kimono and tissue should be analyzed using more sophisticated DNA typing methods which are now available to determine whether mixed stain areas are detectable. Control areas should be excised from areas in close proximity to the stain areas in order to adequately assess the presence of "background" DNA. These results should be analyzed in the context of the pattern of staining on the evidence items themselves, bearing in mind handling and storage conditions. Current DNA analysis methods also are capable of determining the gender of DNA sources. This may be helpful in assessing the existence of possible mixtures of body fluids from Nicole Parker, Hooman Panah or other sources. Adequate material remains from many of the stain areas for independent reanalysis; however, the effects of degradation of the DNA must be considered in light of the amount of time which has elapsed.

Regarding the reported DNA analyses: Hooman Panah's DQA1 type is 1.3, 4; Nicole Parker is a type 2, 4. Of the samples which yielded DNA typing results, none contained a mixture of DNA from Panah and Parker. Therefore, the DNA results may have been important to the triers of fact in evaluating the possibility of sexual contact between Hooman Panah and Nicole Parker.

In summary, assuming that the analytical data provided is the only information available, the biological evidence analyses reviewed herein do not support the hypothesis that intimate sexual contact occurred between Hooman Panah and Nicole Parker. Testimony regarding the DNA analyses would not have supported the conclusions that the stains tested were mixtures of body fluids. The opinions in this report are subject to amendment upon receipt of additional information.

Please feel free to call if you have any additional questions or requests.

I declare under penalty of perjury the foregoing to be true and correct.  
Executed on this the 27th day of February, 2004, in Alameda County, California.

  
Lisa Calandro, MPH  
DNA Laboratory Supervisor