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**DEPARTMENT OF FORENSIC BIOLOGY****LABORATORY REPORT****VICTIM:** Johanna Vega**LAB NO:** FB99-1904**AUTOPSY:** Prial, 8/19/99**M.E. NUMBER:** Bx99-02858**PRECINCT:** 046**COMPLAINT NO:** 11168**SUMMARY OF RESULTS:**

Human blood was found on the piece of carpet obtained from "bedroom #1".

PCR DNA testing results indicate that bloodstains found on the piece of carpet could have come from the victim, Johanna Vega. This combination of DNA alleles would be expected to be found in approximately:

9 loci match

1 in 54,000,000,000	Blacks*
1 in 33,000,000,000	Caucasians
1 in 4,100,000,000	Hispanics
1 in 110,000,000,000	Asians

4 loci match

1 in 140,000	Blacks*
1 in 33,000	Caucasians
1 in 17,000	Hispanics
1 in 180,000	Asians

Blood was presumptively found on the underwear and oral swabs obtained from the victim, Johanna Vega.

No semen was found on the underwear or oral, vaginal, and anal swabs obtained from the victim.

No amylase, a component of saliva, was found on the vaginal swabs obtained from the victim.

\* OCME STR database, National Research Council (1996) *The Evaluation of Forensic DNA Evidence*, Natl. Acad. Press, Washington DC

**EXAMINATIONS:**

Blood and other physiological fluids and tissues contain polymorphic ("many forms") genetic markers which can differ from person to person. These genetic markers are inherited, that is, pass from generation to generation and can be used to compare biological samples from different sources. Genetic markers occur because of changes (mutations) that occur in a person's hereditary material, DNA (Deoxyribonucleic Acid).

Alternative forms of DNA are called alleles; they are found at the same location of the DNA (locus, plural loci) on homologous (matching) chromosomes. An individual can have a maximum of two different alleles at a particular locus, one on each homologous chromosome. A group of two alleles from the same locus constitutes a type.

Several different loci may be analyzed simultaneously using a technique known as the polymerase chain reaction (PCR). This technique allows small amounts of DNA to be amplified; after amplification, the alleles present in the sample are identified.

The loci tested may include the short tandem repeat (STR) loci [VWA, TH01, F13A1, FES/FPS, TPOX, CSF1PO, D3S1358, and FGA]. The STR loci exhibit length polymorphisms which are variations in the number of core repeats, which are 4 basepairs in length. STR alleles are named according to the number of core repeats present at the locus. Each locus has between 8 and 15 identifiable alleles.

The loci tested may also include the Amelogenin locus, which is located on the chromosomes X and Y, and can be used to determine a person's sex.

Locus	Chromosome	Alleles	Types
TPOX	2	6, 7, 8, 9, 10, 11, 12, 13	36
CSF1PO	5	6, 7, 8, 9, 10, 11, 12, 13, 14, 15	55
D3S1358	3	9, 10, 11, 12, 13, 14, 15, 15.2, 16, 17, 18, 19, 20	91
D7S820	7	6, 6.3, 7, 8, 9, 10, 11, 12, 13, 14, 15	66
D16S539	16	5, 8, 9, 10, 11, 12, 13, 14, 15	45
VWA	12	10, 11, 12, 13, 14, 15, 15.2, 16, 17, 18, 19, 20, 21, 22	105
TH01	11	4, 5, 6, 7, 8, 8.3, 9, 9.3, 10, 11	55
F13A1	6	3.2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17	120
FES/FPS	15	7, 8, 9, 10, 11, 12, 13, 14, 15	45

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Table 1: Allelic typing was done with the following results:

ITEM	Amel	D3S1358	DI6S539	TPOX	CSF1PO	D7S820	YWA	F13A1	TH01	FES
victim Johanna Vega	X	16, 18	10, 11	9, 11	11, 12	10, 12	16, 17	3, 2, 5	6, 9, 3/10	12
piece of carpet obtained from "bedroom #1"										
stain 1-A	X	16, 18	10, 11	9, 11	11, 12	10, 12	16, 17	3, 2, 5	6, 9, 3/10	12
stain 1-C	*	*	*	*	*	*	16, 17	3, 2, 5	6, 9, 3/10	12

All of the DNA alleles found on the bloodstains from the piece of carpet are the same as the DNA alleles of the victim, Johanna Vega. Therefore, she could be the source of these bloodstains.

\* = Typing not attempted

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## EVIDENCE RECEIVED:

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
PM 1	-----	8/20/99	blood sample from victim
PM 2	-----		scalp hair from victim
PM 3	-----		sexual assault kit from victim:
PM 3A			underwear
PM 3B			finger nail scrapings
PM 3C1-3C2			oral swabs and smears
PM 3D			pulled head hair
PM 3E			pubic hair combings
PM 3F			pulled pubic hair
PM 3G1-3G2			vaginal swabs and smears
PM 3H1-3H2			anal swabs and smears
PM 3I			control envelope
1	H975791	8/20/99	piece of carpet obtained from "bedroom #1"

## DISPOSITION:

The following items will be retained in the laboratory:

a dried stain prepared from the blood sample obtained from the victim (item PM 1)  
scalp hair (item PM2) obtained from the victim  
items PM 3A-I obtained from the victim  
stains and control obtained from the piece of carpet

The remainder of the piece of carpet has been returned to the OCME Evidence Unit.

Analyst:

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Criminalist II

Supervisor:

Joselyn ChernjowskiJoselyn Chernjowski  
Criminalist IV

CMR: