(59)

FB04-2261

M3847737

12/20/04

U/I HIROM TAKAHASHI

ITEM 1, 2

KM LOT 43, H_2O_2 LOT 02H047;

POS. CONTROL = +

NEG CONTROL = −

ALL STAINS TESTED (3) = +

SUB. CONTROL E WORKS TAKEN

DESIGNATED LARGE REDDISH/BROWN STAIN (KM+) ON RIGHT EDGE & RIGHT SIDE OF KEYPAD STAIN 1A (SEE PHOTO). LARGE PORTION OF STAIN 1A COLLECTED ON 2 MOISTENED (dH_2O) SWABS. CUTTING FROM SWABS WILL BE SUBMITTED FOR DNA EXTRACTION. SWABS LABELED & SEALED IN LABELED COIN ENVELOPES FOR EVENTUAL RETURN TO THE E.U.

1 MOISTENED SWAB EACH USED TO COLLECT POSSIBLE EPITHELIAL CELLS FROM SPEAKER AREA (SAMPLE 1B) & UNSTAINED KEYPAD AREA (SAMPLE 1C). CUTTINGS FROM EACH SUBMITTED FOR DNA EXTRACTION. LABELED SWABS PACKAGED IN SEALED & LABELED COIN ENVELOPES FOR EVENTUAL RETURN TO E.U. ALONG WITH CELL PHONE.

CUTTINGS FROM SAMPLE SWABS 1B & 1C WERE KM TESTED BECAUSE THEY HAD A LIGHT BROWNISH COLOR – BOTH WERE POSITIVE (WEAK)

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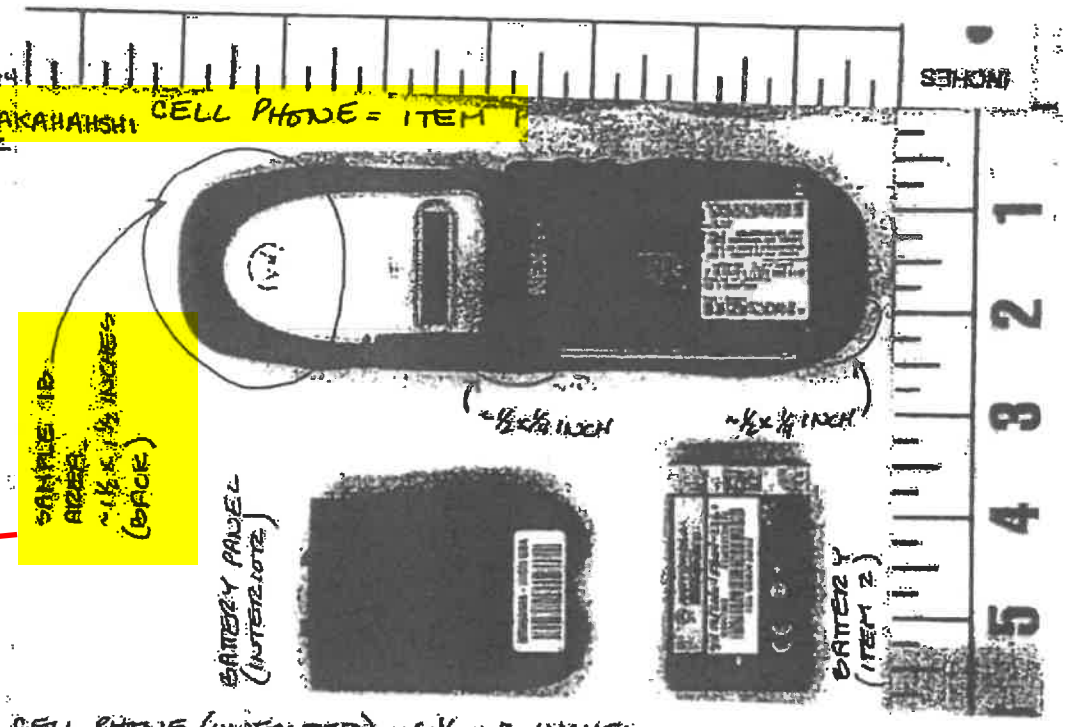
H384723
12/20/04
V] HIROMI TAKAHASHI CELL PHONE = ITEM 1
ITEM 1 & 2



CELL PHONE (UNFOLDED) ~ 6½ x 2 INCHES

AREAS W/ HEAVY REDDISH/BROWN STAINING ARE CIRCLED. NOT ALL WILL BE KM TESTED. SAMPLE AREAS 1B & 1C ALSO CIRCLED BUT APPEAR UNSTAINED.

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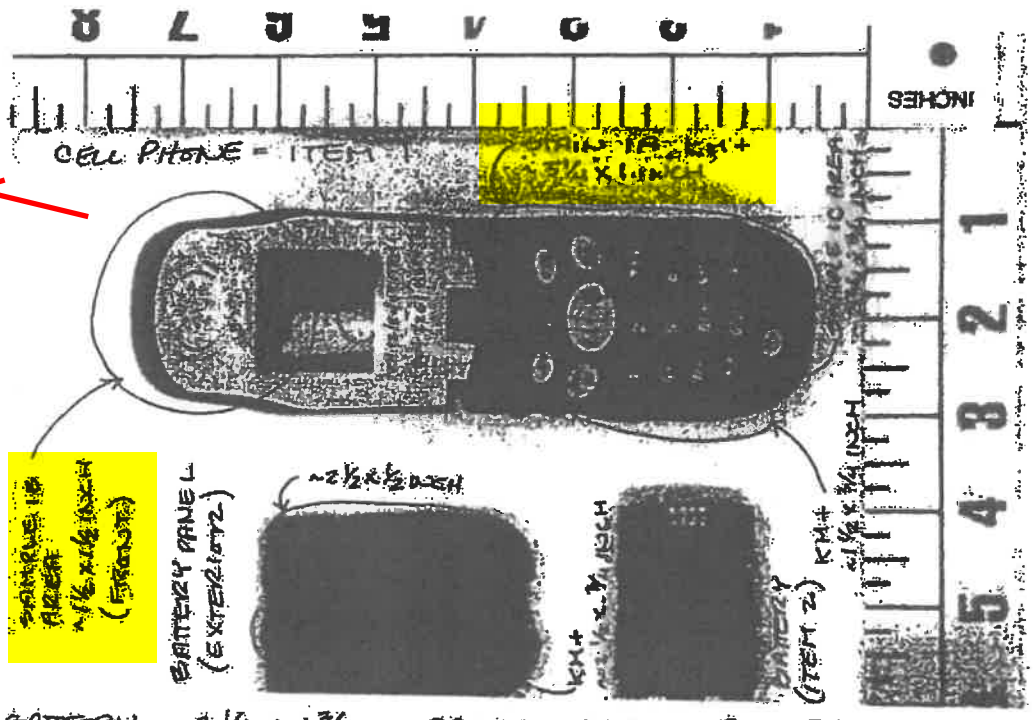

BATTERY ~ 2 ¼ x 1 ⅜ BATTERY PANEL ~ 2 ¾ x 1 ¾ INCH

12/20/04 NO BLOOD-LIKE STAINING SEEN ON BATTERY.

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OFFICE OF CHIEF MEDICAL EXAMINER
Charles S. Hirsch, M.D., *Chief Medical Examiner*
520 First Avenue, New York, NY 10016
Tel: [redacted] · Fax: [redacted] · TTY: [redacted] · http://www.nyc.gov

DEPARTMENT OF FORENSIC BIOLOGY
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Helen R. Rafanello, M.S., *Assistant Director*, Mechthild Prinz, Ph.D., *Assistant Director*

December 30, 2004

LABORATORY REPORT

VICTIM: Hiromi Takahashi

LAB NO: FB04-2261

PRECINCT: 10

COMPLAINT NO: 65179

SUMMARY OF RESULTS:

Human blood[1] was found on the cellular phone recovered by the "c/v."

PCR DNA typing was done; the DNA profiles of two individuals (Male Donor #1 and Female Donor #1) were identified.

The combination of DNA alleles that are the most likely DNA profile for Male Donor #1 would be expected to be found in approximately:[4]

13 locus result (phone sample 1C)
1 in greater than 1 trillion Blacks
1 in greater than 1 trillion Caucasians
1 in greater than 1 trillion Hispanics
1 in greater than 1 trillion Asians

Further analysis could be done upon submission of a blood or saliva sample from a suspect. Further analysis will require approximately 60 days.

The DNA results in this case do not match any previous PCR (STR) DNA cases to date.

The DNA results in this case will be entered into the OCME local DNA databank. The DNA results will be entered into the National Combined DNA Indexing System (CODIS).

1. The finding of human blood is based on a positive screening test for blood followed by the detection of human (primate) DNA.

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

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The DNA profile of Female Donor #1 is the same as the DNA profile of Hiromi Takahahshi. Therefore she could be the source of this DNA. This DNA profile would be expected to be found in approximately:[4]

6 locus result (phone stain 1A)
1 in 23,000,000 Blacks
1 in 12,000,000 Caucasians
1 in 3,700,000 Hispanics
1 in 4,900,000 Asians

No blood was found on the cellular phone battery recovered by the "c/v."

Item number 2 from voucher M456685 ("DNA sample 2" swab from Hiromi Takahahshi) was not examined.

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

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Hiromi Takahashi

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 [D3S1358, D16S539, THO1, TPOX, CSF1PO, D7S820, VWA, FGA, D8S1179, D21S11, D18S51, D5S818, D13S317]. The STR loci exhibit length polymorphisms which are variations in the number of core repeats, which are 4 base pairs in length. STR alleles are named according to the number of core repeats present at the locus. Each locus has between 8 and 32 identifiable alleles.

The loci tested may also include the Amelogenin locus, which is located on chromosomes X and Y, and can be used to determine the sex origin of an unknown sample.

Locus	Chromosome	Alleles	Types
D3S1358	3	9, 10, 11, 12, 13, 14, 15, 15.2, 16, 17, 18, 19, 20	91
VWA	12	10, 11, 12, 13, 14, 15, 15.2, 16, 17, 18, 19, 20, 21, 22	105
FGA	4	16, 16.2, 17, 17.2, 18, 18.2, 19, 19.2, 20, 20.2, 21, 21.2, 22, 22.2, 23, 23.2, 24, 24.2, 25, 25.2, 26, 26.2 , 27, 27.2, 28, 28.2, 29, 29.2, 30, 30.2, 31, 31.2	528
D8S1179	8	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	78
D21S11	21	24.2, 25, 26, 27, 28, 28.2, 29, 29.2, 29.3, 30, 30.2, 31, 31.2 32, 32.2, 33, 33.1, 33.2, 34, 34.2, 35, 35.2, 36, 38	300
D18S51	18	9, 10, 10.2, 11, 12, 13, 13.2, 14, 14.2, 15, 16, 17, 18, 19, 20 21, 22, 23, 24, 25, 26	231
D5S818	5	7, 8, 9, 10, 11, 12, 13, 14, 15, 16	55
D13S317	13	5, 8, 9, 10, 11, 12, 13, 14, 15	45
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
THO1	11	4, 5, 6, 7, 8, 8.3, 9, 9.3, 10, 11	55
TPOX	2	6, 7, 8, 9, 10, 11, 12, 13	36
CSF1PO	5	6, 7, 8, 9, 10, 11, 12, 13, 14, 15	55

TABLE 1 - Allelic typing was done with the following results:

ITEM	D3S1358	D16S539	Amel	TH01	TPOX	CSF1PO	D7S820	VWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317
Hiromi Takahahshi	15, 18	12, 13	X	6, 9	11	12	8, 11	*	*	*	*	*	*	*
cellular phone														
stain 1A (key pad)	15, 18	12, 13	X	6, 9	11	12	8, 11	*	*	*	*	*	*	*
sample 1B (speaker)	15, 16, 18	10, 12, 13	X, Y	6, 9, 9.3	8, 11, 12	10, 11, 12	10, 11 **	*	*	*	*	*	*	*
sample 1C (key pad)	15, 16, 18	10, 13 **	X, Y	9, 9.3 **	8, 11, 12	10, 11, 12	10, 11 **	16, 17	19, 22 **	11, 12, 13	29, 30.2 **	12, 15, 17 **	7, 11	11, 15 **

* = Typing not attempted
** = Additional peaks were detected which did not meet laboratory criteria for allele identification; therefore, these additional peaks are not reported

All of the DNA alleles identified from phone stain 1A are the same as the DNA alleles of the victim. Therefore, she could be the source of this blood.

A person can have a maximum of two DNA alleles at a given DNA locus. Since more than two DNA alleles were seen at at least one DNA locus, a mixture of DNA is present in phone sample 1C. A minimum of two people must have contributed to this sample. Some of these DNA alleles are the same as the DNA alleles of the victim. She could be the source of those DNA alleles and could be a minor contributor to the mixture. However, the DNA alleles of the major contributor to this mixture are foreign to the victim and could not have come from her. These DNA alleles must have come from a male individual (Male Donor #1). Based on the DNA results (and assuming a single major contributor), the most likely DNA profile for Male Donor #1 is:

D3S1358	D16S539	Amel	THO1	TPOX	CSF1PO	D7S820	VWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317
16, 18	10, 13	X, Y	9, 9.3	8, 12	10, 11	10, 11	16	19, 22	11, 13	29, 30.2	15, 17	7, 11	11, 15

A mixture of DNA from a minimum of two people is also present in phone sample 1B. The results for this sample are consistent with a mixture of DNA from the victim and Male Donor #1.

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Hiromi Takahahshi

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EVIDENCE RECEIVED:

ITEM	VOUCHER	DATE REC'D	DESCRIPTION
1	M384733	12/20/04	cellular phone
2	"		cellular phone battery
1	M456685	12/20/04	"DNA sample 1" swab from Hiromi Takahahshi
2	"		"DNA sample 2" swab from Hiromi Takahahshi

DISPOSITION:

The following items will be retained in the laboratory:

- "DNA sample 1" swab from Hiromi Takahahshi
- DNA extracts for all samples and controls tested

The remainder of the evidence will be returned to the OCME Evidence Unit.

Analyst: _____
Scott Hodgson
Criminalist III

SH: