DNA Parentage Test Report

Report Date 8/23/2002

Case 2456								
Name	Jane Doe			Baby Doe			Tom Doe	
Race	Caucasian						Caucasian	
Date Collected	8/16/02			8/16/02			8/16/02	
Test No.	2456-10			2456-20			2456-31	
Locus	PI	Allele Sizes		Allele Sizes			Allele Sizes	
D8S117	0.00	12	13	13	14		12	15
D21S11	0.00	29	30	28	30		30	32.2
D7S820	0.00	9	11	10	11		8	9
CSF1PO	0.00	11	12	11	12		7	10
D3S1358	1.63	17		16	17		15	16
THO1	0.00	7	9	8	9		9.3	
D13S317	2.20	11	13	12	13		12	
D16S539	0.00	11	12	11			10	12
D2S1338	0.00	22	23	21	22		23	25
D19S433	0.00	12	15.2	12	15		12.2	13
VWA	0.00	13	15	13	14		17	
TPOX	0.00	8	11	8			6	11
D18S51	0.00	12	15	12	17		13	19
D5S818	0.00	11	12	12	13		8	11
FGA	0.00	22		22	24		22	23

Interpretation Combined Paternity Index **0** Probability of Paternity **0%**

The alleged father is excluded as the biological father of the child named above. This conclusion is based on the non-matching alleles observed at the loci listed above with a PI equal to zero. The alleged father lacks the genetic markers that must be contributed to the child by the biological father. The probability of paternity is 0%.

Subscribed and sworn before me on August 23, 2002.

Signature

Notary Public, State of Ohio

I, the undersigned, verify that the interpretation of the results is correct as reported, and the testing procedure was conducted in accordance with the AABB guidelines.

Signature

Associate Laboratory Director

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DNA Parentage Test Report

Report Date 8/23/2002

Case 2456								
Name	Jane Doe		Baby Doe			John Doe		
Race	Caucasian					Caucasian		
Date Collected	8/16/02		8/16/02			8/16/02		
Test No.	2456-10		2456-20			2456-30		
Locus PI	Allele Sizes		Allele Sizes			Allele Sizes		
D8S117 **3.20**	12	13	13	14		14		
D21S11 **2.10**	29	30	28	30		28	30	
D7S820 **3.02**	9	11	10	11		10		
CSF1PO **2.04**	11	12	11	12		12		
D3S1358 **1.63**	17		16	17		15	16	
THO1 **2.92**	7	9	8	9		8	9	
D13S317 **1.10**	11	13	12	13		11	12	
D16S539 **1.57**	11	12	11			11	12	
D2S1338 **3.57**	22	23	21	22		21	22	
D19S433 **7.98**	12	15.2	12	15		13	15	
VWA **7.50**	13	15	13	14		14	16	
TPOX **1.45**	8	11	8			8	11	
D18S51 **3.22**	12	15	12	17		17	19	
D5S818 **4.15**	11	12	12	13		13		
FGA **2.90**	22		22	24		24	27	

Interpretation Combined Paternity Index **4,085,747** Probability of Paternity **99.99998%**

The alleged father is not excluded as the biological father of the child named above. Based on testing results obtained from analyses of the DNA loci listed, the probability of paternity is 99.99998%. This probability of paternity is calculated by comparing to an untested, random individual of the North American Caucasian population (assumes prior probability equals 0.50).

Subscribed and sworn before me on August 23, 2002.

Signature

Notary Public, State of Ohio

I, the undersigned, verify that the interpretation of the results is correct as reported, and the testing procedure was conducted in accordance with the AABB guidelines.

Signature

Associate Laboratory Director

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How does the DNA testing process work?
DNA (Deoxyribonucleic acid) is the genetic material in all of the cells in your body. A person receives half of his genetic material, or DNA, from his biological mother and the other half from his biological father. DNA can be extracted from a few drops of blood or cheek cells. DNA testing is based on a highly accurate analysis of the genetic profiles of the mother, child, and alleged father. Using this type of testing, virtual certainty about parentage can be achieved.

DNA paternity testing is performed through PCR analysis. PCR analysis uses a procedure to amplify specific areas of an individual's DNA. These specific areas (genetic loci) are examined for variations in regions of the DNA known as short tandem repeats (STRs). The numbers of copies of the repeating units that occur at each locus are variable and inherited genetically from the biological parents. The results of PCR analysis are shown as the number of repeat units per gene at each DNA locus. Each person typically has two *alleles* (alternate forms of a gene), one inherited from the biological mother and one inherited from the biological father. If the same allele is inherited from each parent, then only one allele is listed on the report. The alleles detected from the DNA analysis are listed as numbers in the report and represent the number of repeat lengths detected.

How do I interpret the paternity test results?
DNA testing is the most accurate form of paternity testing possible. When a mother, child, and alleged father are tested, the obligate paternal alleles of the child, the alleles the child received from their biological father, can be determined by subtracting the mother's contribution to the child. If the alleged father fails to have the obligate paternal alleles at three or more loci, he is excluded as the biological father of the child. If only a child and alleged father are tested, failure for the child and alleged father to share common alleles at three or more loci is consistent with non-paternity. When the alleged father contains the obligate paternal alleles at all loci tested, then he is not excluded as the biological father of the child.

Paternity Index
The Paternity Index (PI) is the genetics odds in favor of the alleged father being the biological father of the child. A PI is calculated for each DNA locus and is listed in the report. The PI for each locus is calculated as the chance of the alleged father contributing the obligate paternal allele versus a random, untested man in the population. The Combined Paternity Index (CPI) is calculated by multiplication of the individual Paternity Indices. For example, if the CPI is 100,000, this means that the tested alleged father is 100,000 times more likely to be the biological father of the child than an untested, random man of the population. If the alleged father is excluded at three or more loci, the PI at the excluded loci is 0 and the CPI is 0, indicating that the data is consistent with the exclusion of the alleged father as the biological father.

Probability
The Probability of Paternity (expressed as a percentage) is calculated from the CPI and indicates the chance of paternity based on the complete DNA test results. In order to convert the CPI to a percentage, a prior probability of paternity of 0.5 is used, a neutral value, which means that the alleged father is equally likely to be, or not be, the biological father of the child.

Mutation
Occasionally, an alleged father will not have the obligate paternal allele at one or two loci. Such results could result from a mutation in the DNA. When this occurs, additional analysis must be performed to determine whether the alleged father is excluded or not excluded as the biological father. If no additional loci exclude the alleged father as the biological father after additional analysis, a PI reflecting the mutation rate is listed on the report and a CPI and Probability of Paternity is calculated. Alternatively, such results may also indicate that a close biological relative of the alleged father (such as a brother or father) may be the biological father of the child. Additional calculations can be performed to help address this possibility. However, it is always best to have all possible alleged fathers tested to establish the true biological father.

Siblingship Analysis
DNA testing can also be used to determine the likelihood of individuals being related as brother and/or sister. The DNA of two possible siblings is compared to determine if there are any common alleles between the two. At each DNA locus it is possible that 0, 1, or 2 alleles will be shared whether two people are siblings or not. Any matching alleles are analyzed to determine the statistical chance that the people in question would share that DNA if they are siblings, compared to the chance if they are unrelated. Based on this statistical analysis, the relative chance that two people are full-siblings or half-siblings can be calculated. It is important to note that it is not possible to determine with 100% certainty whether or not two people are definitely siblings; only whether they are likely to be siblings or not. In some cases there is not enough information from the DNA analysis to determine siblingship or non-siblingship. When this occurs the results are said to be inconclusive.

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Standard

5′ CCAAGACATTATGCAGA
3′ GGTTCTGTAATACGTCT *

TGGCCAATAGACATTACGG
ACCGGTTATCTGTAATGCC **

CCATACCAGAGGGCCCAA
GGTATGGTCTCCGGGTT ***

CATGGCCAAACACACCC
GTACCGGTTTGTGTGGG ****

ATCAGGCCATGGCAGAC
TAGTCCGGTACCGTCTG *****

GGGCCATACGGGCCATGG 3′
CCCGGTATGCCCGGTACC 5′

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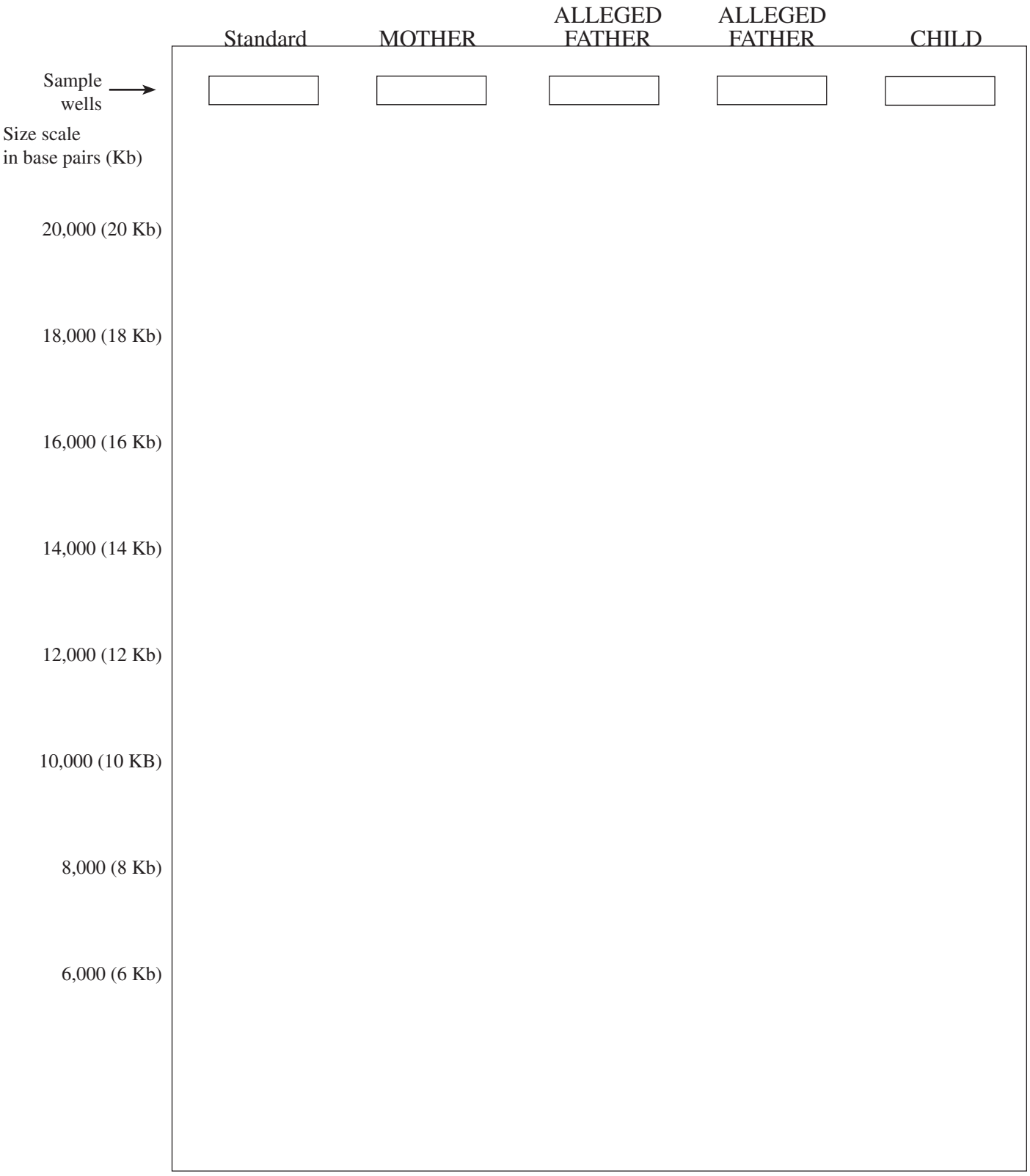
Electrophoresis Gel "Blotter" Master



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“Radioactive Probe” Locators Master

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