

Anne Arundel County Police Crime Laboratory
ASCLD/LAB® Accredited Since 2001
Forensic Biology Report

Offense Description:	DOA	Report Date:	May 27, 2015
Lab Case Number:	AA0122-15	Case Officer:	Sgt. Poole #1442
Complaint Number:	12-716431	Attention:	ECU Evidence Coordinator
Analyst:	Emilie Dembia	Agency:	Evidence Collection Unit
Offense Date:	May 06, 2012	Case Names:	Katherine Morris (Victim) Margarite Morris (Owner)
Report 1			

Polymerase chain reaction (PCR) testing using the PowerPlex Fusion System was performed using DNA extracts from the following item(s). Any alleles detected are listed in the included table(s) along with the short tandem repeat (STR) loci tested.

Item #	Description
CS-01	Sealed paper bag containing: Lighter
CS-04	Sealed small manila envelope containing: Bottle of sleep aid medicine
CS-05	Sealed paper bag containing: Packaging for 2 disposable charcoal grills
CS-06	Sealed paper bag containing: Disposable charcoal grills (2 - tested separately)
VV-01	Sealed swab box containing: Swab from int. driver door
VV-02	Sealed swab box containing: Swab from int. front passenger door
VV-03	Sealed swab box containing: Swab from int. rear driver door
VV-04	Sealed swab box containing: Swab from int. rear passenger door
VV-05	Sealed swab box containing: Swab from steering wheel
V-01	Sealed small manila envelope containing: Known standard blood card (Katherine Morris)

The following item(s) were not examined at this time:

Item #	Description
VV-06	Sealed swab box containing: Control swab(s)
V-02	Sealed small manila envelope containing: Head Hair Standard
V-03	Sealed small manila envelope containing: Fingernail clippings, right hand
V-04	Sealed small manila envelope containing: Fingernail clippings, left hand
V-05	Sealed small manila envelope containing: Oral swab(s)
V-06	Sealed small manila envelope containing: Fingerprint and palm print cards
V-12	Sealed manila envelope containing: Right hand bag
V-13	Sealed manila envelope containing: Left hand bag
V-14	Sealed small manila envelope containing: Contact lenses
V-16	Sealed small manila envelope containing: Right hand swab(s)
V-17	Sealed small manila envelope containing: Left hand swab(s)

ECU [Signature]

Offense Description: DOA
Laboratory Case Number: AA0122-15
Complaint Number: 12-716431
Analyzed By: Emilie Dembia

Report Date: May 27, 2015
Case Officer: Sgt. Poole #1442
Attention: ECU Evidence Coordinator
Agency: Evidence Collection Unit

DNA Conclusions:

Item CS-01 (Lighter):

A mixture of DNA from at least two individuals was obtained from this item. This is a partial mixture (16 out of 22 loci), which may be due to degradation or an insufficient amount of recoverable DNA. Katherine Morris cannot be excluded as a possible contributor to this mixture.

A major component can be determined at 7 out of 16 loci. Using Recommendation 4.1 from the 1996 National Research Council report¹, the frequency in the combined population^{2,3,4} of this major component and the known DNA profile of Katherine Morris is approximately 1 in 290 billion unrelated individuals.

Item CS-04 (Bottle of sleep aid medicine):

Three alleles were obtained from this item, which may be due to degradation or an insufficient amount of recoverable DNA. Given the limited number of alleles, no conclusions can be made regarding this item.

Item CS-05 (Packaging for 2 disposable charcoal grills):

One allele was obtained from this item, which may be due to degradation or an insufficient amount of recoverable DNA. Given the limited number of alleles, no conclusions can be made regarding this item.

Item CS-06 (Disposable charcoal grills):

Grill A:

A partial DNA profile (19 out of 22 loci) was obtained from this grill, which may be due to degradation or an insufficient amount of recoverable DNA. This partial profile is consistent with the known DNA profile of Katherine Morris.

Using Recommendation 4.1 from the 1996 National Research Council report¹, the frequency in the combined population^{2,3,5} of this partial profile and the known DNA profile of Katherine Morris is approximately 1 in 8.9 quintillion unrelated individuals.

Grill B:

No DNA profile was obtained from this grill. This may be due to degradation or an insufficient amount of recoverable DNA. As a result, no conclusions can be made regarding this item.

Item VV-01 (Swab from int. driver door):

A partial DNA profile (4 out of 22 loci) was obtained from this item, which may be due to degradation or an insufficient amount of recoverable DNA. Given the limited nature of this profile, no conclusions can be made regarding this item.

Offense Description: DOA
Laboratory Case Number: AA0122-15
Complaint Number: 12-716431
Analyzed By: Emilie Dembia

Report Date: May 27, 2015
Case Officer: Sgt. Poole #1442
Attention: ECU Evidence Coordinator
Agency: Evidence Collection Unit

Item VV-02 (Swab from int. front passenger door):

A mixture of DNA from at least two individuals was obtained from this item. This is a partial mixture (3 out of 22 loci), which may be due to degradation or an insufficient amount of recoverable DNA. Given the limited nature of this mixture, no conclusions can be made regarding this item.

Item VV-03 (Swab from int. rear driver door):

One allele was obtained from this item, which may be due to degradation or an insufficient amount of recoverable DNA. Given the limited number of alleles, no conclusions can be made regarding this item.

Item VV-04 (Swab from int. rear passenger door):

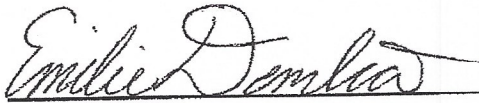
No DNA profile was obtained from this item. This may be due to degradation or an insufficient amount of recoverable DNA. As a result, no conclusions can be made regarding this item.

Item VV-05 (Swab from steering wheel):

Four alleles were obtained from this item, which may be due to degradation or an insufficient amount of recoverable DNA. Given the limited number of alleles, no conclusions can be made regarding this item.

I certify this report is an accurate record of the results of the above examination(s) conducted by me as an employee of, and in a laboratory operated by, the Anne Arundel County Police Department.

The evidence is being retained in the Forensic Biology Unit pending retrieval by the Evidence Collection Unit or will be transferred to Property Management. If you have any questions, call 410-222-8534 (Forensic Biology Unit).



Emilie Dembia, M.S.
Forensic Chemist II - Biology

¹ The National Research Council on DNA Forensic Science. (1996). The Evaluation of Forensic DNA Evidence. National Academy Press, Washington, D.C. p.122. Frequency calculations using the referenced database follow Recommendation 4.1 of the 1996 National Research Council report referenced above.

² Hill, C.R., et al. (2013). "U.S. population data for 29 autosomal STR loci." Forensic Sci. Int. Genet. 7:e82-e83.

³ The Combined Population Group includes Caucasian, African-American, Hispanic, and Asian population groups.

⁴ For stochastic reasons, the genetic frequencies of the following loci were not included in statistical calculations: D3S1358, D18S51, Penta D, vWA, D7S820, TPOX, D8S1179, D12S391, D19S433.

⁵ For stochastic reasons, the genetic frequencies of the following loci were not included in statistical calculations: D2S441, D13S317, Penta E, CSF1PO, Penta D, D5S818, FGA, D22S1045.

Offense Description: DOA
 Laboratory Case Number: AA0122-15
 Complaint Number: 12-716431
 Analyzed By: Emilie Dembia

Report Date: May 27, 2015
 Case Officer: Sgt. Poole #1442
 Attention: ECU Evidence Coordinator
 Agency: Evidence Collection Unit

ALLELES DETECTED - POWERPLEX^R FUSION

Locus	CS-01 Lighter	CS-04 Bottle of sleep aid medicine	CS-05 Packaging for charcoal grills	CS-06 Disposable charcoal grills: grill A	V-01 Katherine Morris
Amelogenin	X,X	---	---	X,X	X,X
D3S1358	12,16,17	17	---	12,17	12,17
D1S1656	13,15	---	---	13,15	13,15
D2S441	14	---	---	14	14
D10S1248	---	---	---	---	12,15
D13S317	---	---	---	12	12
Penta E	---	---	---	7	7,14
D16S539	9,10,13	---	---	9,13	9,13
D18S51	20	---	---	20,22	20,22
D2S1338	21,24	---	---	21,24	21,24
CSF1PO	8	---	---	8	8
Penta D	2,2	---	---	2,2	2,2,10
TH01	6,9	8	---	6,9	6,9
vWA	15	---	---	15,18	15,18
D21S11	28,30	---	---	28,30	28,30
D7S820	8,11	---	---	---	8,11
D5S818	---	---	---	8	8,12
TPOX	8,11	---	---	---	8,11
DYS391	---	---	---	---	---
D8S1179	12,14	15	10	12,14	12,14
D12S391	17,19	---	---	17,19	17,19
D19S433	11,14	---	---	11,14	11,14
FGA	---	---	---	22	22,24
D22S1045	---	---	---	10	10,17

Statements: --- = No alleles detected at this locus.
 The results listed in the table above may not depict intensity differences.

ECU MAA