

CL Case #:	C20091828	Agency Case #:	091054602
Agency:	WVC - WEST VALLEY PD	Report #:	395541
ORI:	UT0182500		

**Criminalistic Analysis Report - DNA TESTING**

**Evidence Submission Information**

Evidence Submitted: 01/05/2010  
 How Received: IN PERSON  
 Haz. Materials: BIOLOGICAL MATERIAL  
 Submitted By: [REDACTED]  
 Delivered By: [REDACTED]  
 Received By: [REDACTED]

**Victims and Suspects**

<u>Vic/Susp</u>	<u>Name</u>	<u>DOB</u>	<u>Sex</u>	<u>Race</u>
Victim	POWELL, SUSAN		F	W

**Crimes**

<u>NCIC Code</u>	<u>Description</u>
0999	HOMICIDE / MURDER (INC: ATTEMPTED)

**CHAIN OF CUSTODY STATEMENT Re: Chain of Custody**

The item(s) submitted under the police agency case numbers referenced in this report were in a sealed condition at the time any examination, testing, or analysis was commenced by the undersigned, and that said examination or handling, if any, of the actual items within any such sealed containers was accomplished in a manner to preserve the integrity of the item to assure that any chance of misidentification, or environmental cross-contamination would be avoided by adherence to standardized procedures within the Utah State Crime Laboratory appropriate to any processes applicable to the examination, analysis, or testing of said items. Any deviation from said procedures, and reasons therefore is noted below. The breaking of any seal or part of the container in which the item was submitted, has been followed by a reinsertion of the item into its original container, followed by any examination, testing or analysis and resealing of that container with the undersigned's initials placed over such new seal.

**Criminalistics Analysis Report and Conclusions**



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**Criminalistic Analysis Report - DNA TESTING**

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DNA analysis completed on 1/21/2010. Please see attached report.



STATE OF UTAH  
CRIME LABORATORY REPORT



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CL Case #: C2009-1828

Submitted Date: 12/30/2009

Submitted By: [Redacted]

[Redacted]

Agency Code/No.: WVC – West Valley City Police Department / 09I054602

Delivered By: [Redacted]

[Redacted]

Received By: [Redacted]

Report #: C20091828-011910

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Victim	Last Name Powell	First Name Susan	Middle Name
Suspect	Last Name	First Name	Middle Name

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CHAIN OF CUSTODY STATEMENT RE: Chain of Custody

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Criminalistic Analysis Report Follows

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**STATE OF UTAH CRIME LABORATORY**

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CL Case #: C2009-1828

Submitted Date: 12/30/2009

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Criminalistic Analysis Report – **DNA -- STR**

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**EVIDENCE SUBMITTED:**

- Q1: Swab 1 from tile (Item 33A)
- Q2: Swab 2 from tile (Item 33B)
- Q3: Swab 3 from tile (Item 33C)
- Q4: Human blood – flakes from couch (Item 40A)
- Q5: Stain on right front of couch (Item 40B)
- Q6: Swab of tarp (Item 41)
- V1: Blood “standard” from Susan Powell (Item 47A)
- E1: Buccal standard from Charles Cox (Item 1)
- E2: Buccal standard from Josh Powell (Item 4)
- E3: Buccal standard from Judy Cox (Item 63)

**RESULTS OF ANALYSIS:**

Deoxyribonucleic acid (DNA) analysis using Polymerase Chain Reaction (PCR) based typing was attempted on the above listed items. Results are as follows:

DNA extractions were performed on the following samples:

- Q1: Swab 1 from tile
- Q2: Swab 2 from tile
- Q3: Swab 3 from tile
- Q4: Human blood – flakes from couch
- Q5: Stain on right front of couch
- Q6: Swab of tarp
- V1: Blood “standard” from Susan Powell
- E1: Buccal standard from Charles Cox
- E2: Buccal standard from Josh Powell
- E3: Buccal standard from Judy Cox

DNA amplification was performed using the Applied Biosystems AmpF/STR® Identifiler™ Amplification Kit. The analysis of the amplified product was performed on a capillary electrophoresis instrument.

DNA profiles obtained from the fifteen attempted loci are indicated in the table below:

**STATE OF UTAH CRIME LABORATORY**



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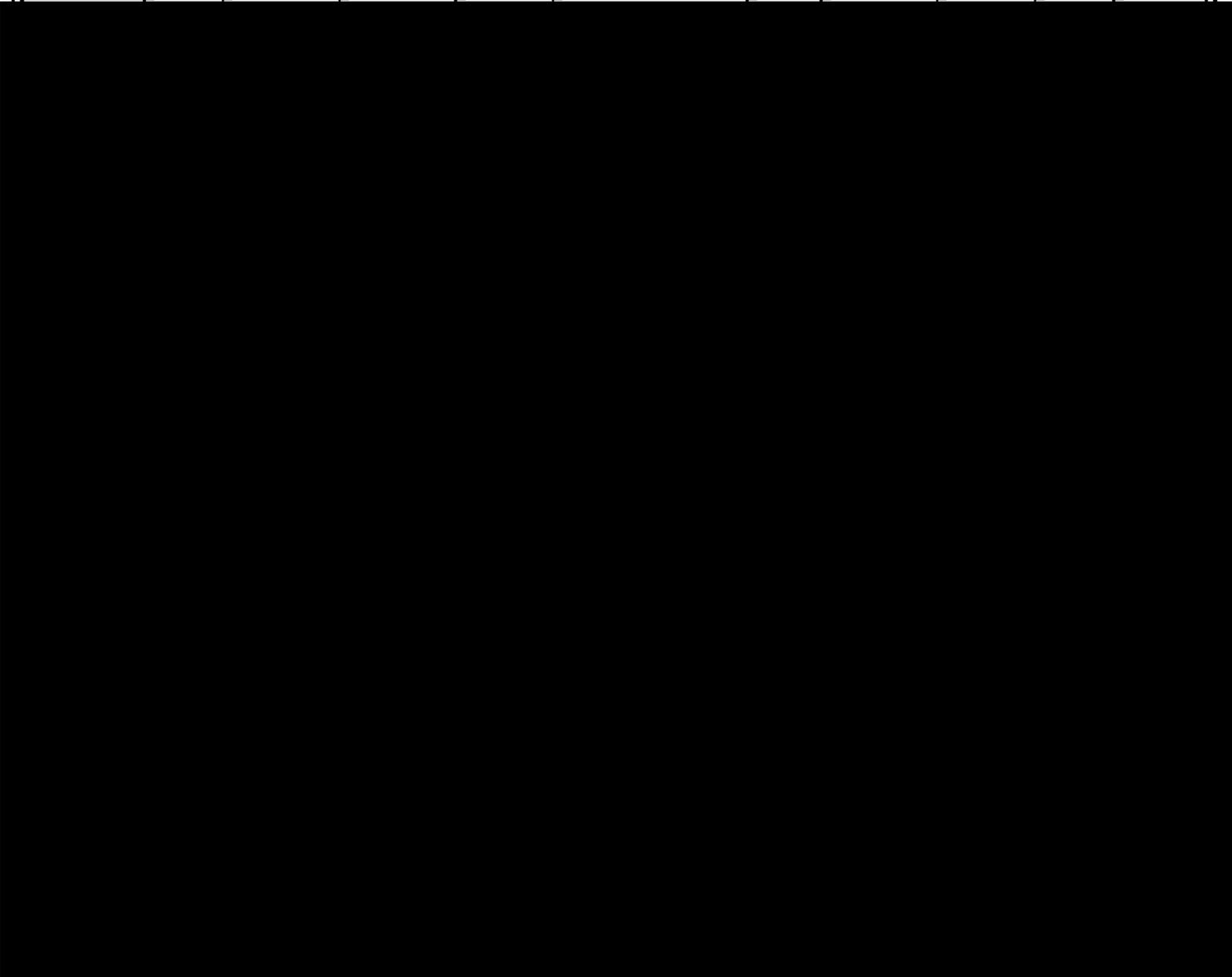
Report #: C20091828-011910

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Criminalistic Analysis Report – **DNA -- STR**

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IDENTIFILER™



**STATE OF UTAH CRIME LABORATORY**

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Criminalistic Analysis Report – **DNA -- STR**

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**CONCLUSION:**

Based on a comparison of the DNA profiles from the samples listed above...

The 2 loci DNA profile of sample Q1 (Swab 1 from tile) is insufficient for comparison.

The 15 loci and amelogenin DNA profile of sample Q2 (Swab 2 from tile) appears to have originated from a single female source.

- Sample V1 (Blood “standard” from Susan Powell) matches sample Q2 and could have originated from the same donor.
- Samples E1 (Buccal standard from Charles Cox), E2 (Buccal standard from Josh Powell) and E3 (Buccal standard from Judy Cox) do not match sample Q2 and could not have originated from the same donor.

The 15 loci and amelogenin DNA profile of sample Q3 (Swab 3 from tile) appears to have originated from a single female source.

- Sample V1 (Blood “standard” from Susan Powell) matches sample Q3 and could have originated from the same donor.
- Samples E1 (Buccal standard from Charles Cox), E2 (Buccal standard from Josh Powell) and E3 (Buccal standard from Judy Cox) do not match sample Q3 and could not have originated from the same donor.

The 15 loci and amelogenin DNA profile of sample Q4 (Human blood – flakes from couch) appear to have originated from a single male source.

- Samples V1 (Blood “standard” from Susan Powell), E1 (Buccal standard from Charles Cox), E2 (Buccal standard from Josh Powell) and E3 (Buccal standard from Judy Cox) do not match sample Q4 and could not have originated from the same donor. This indicates that an unknown male contributor exists for this sample.

## STATE OF UTAH CRIME LABORATORY

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Criminalistic Analysis Report – **DNA -- STR**

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The 15 loci and amelogenin DNA profile of sample Q5 (Stain on right front of couch) appears to be a mixture of DNA from more than one individual. The sample exhibits a 15 loci major profile and a 12 loci minor profile. The major profile is clearly discernable from the minor profile.

- Sample V1 (Blood “standard” from Susan Powell) matches the major profile of sample Q5 and could have originated from the same donor.
- Samples E1 (Buccal standard from Charles Cox), E2 (Buccal standard from Josh Powell) and E3 (Buccal standard from Judy Cox) are excluded as possible contributors to this sample.
- Sample Q5 exhibits alleles that are not consistent with samples V1, E1, E2, or E3 or a combination of V1, E1, E2, and E3. This indicates that an unknown contributor exists for this sample.
- The major profile of sample Q5, sample Q2 and sample Q3 match and could have originated from the same donor.

No DNA profile was developed for sample Q6 (Swab from tarp).

Based on a national database provided by the Federal Bureau of Investigation the probability of selecting an unrelated individual at random from the population matching the 15 loci DNA profile of sample Q2, Q3 and the major DNA profile of sample Q5 is approximately 1 in 5.5 sextillion in Caucasians, 1 in 410 sextillion in Blacks, 1 in 10 quintillion in Southeastern Hispanics and 1 in 4.5 sextillion in Southwestern Hispanics.

**STATE OF UTAH CRIME LABORATORY**

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Criminalistic Analysis Report – **DNA -- STR**

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**DISPOSITION OF EVIDENCE**

All items were retained in the laboratory.



The above interpretation does not represent the totality of the forensic scientist's observations and conclusions. Further discussion and/or questions are encouraged.