

**ASCLD/LAB
LIMITED SCOPE
INTERIM INSPECTION REPORT**



**COMMONWEALTH OF VIRGINIA
DIVISION OF FORENSIC SCIENCE
CENTRAL LABORATORY**

APRIL 9, 2005

INTRODUCTION

This is the report of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) limited scope interim inspection of the Commonwealth of Virginia Division of Forensic Science Central Laboratory Biology/DNA Unit, located in Richmond, Virginia. This inspection was conducted at the request of the Laboratory System Director, Dr. Paul B. Ferrara, by letter dated October 1, 2004.

The ASCLD/LAB inspection team consisted of the following members:

Rodney H. Andrus, Staff Inspector, ASCLD/LAB, Fresno, CA.
Pat W. Wojtkiewicz, North Louisiana Criminalistics Laboratory, Shreveport, LA. (October 24-27, 2004 visit).
James Iverson, Minnesota Bureau of Criminal Apprehension, St. Paul, MN. (December 13-15, 2004 visit).

The ASCLD/LAB Board of Directors liaisons to the inspection team were:

Robin W. Cotton, PhD, Orchid Cellmark, Germantown, Maryland
Kenneth E. Melson, Alexandria, Virginia

The on-site inspection was conducted during the periods of October 24-27, 2004, and December 13-15, 2004, at the Virginia Division of Forensic Science (DFS) Central Laboratory in Richmond, Virginia.

This inspection focused on the review of the examination documentation and reports for the Virginia Division of Forensic Science Case File No. 81N-6691, involving a 1982 sexual assault and homicide, and associated laboratory analytical and operational procedures. After an initial on-site visit, a revisit of the laboratory was conducted for the purposes of evaluating and clarifying issues that had not been resolved during the initial inspection. Other material associated with the case, more fully described later in this report, was also reviewed.

LABORATORY OVERVIEW

The Virginia Division of Forensic Science Central Laboratory provides full services to the central region of the Commonwealth of Virginia as well as specialized services statewide. The Central Laboratory is one of four laboratories in the Virginia Division of Forensic Science Laboratory System, and is located at 700 North 5th Street, Richmond, Virginia. The Laboratory provides services in Controlled Substances, Toxicology, Trace Evidence, Biology, Firearms/Toolmarks, Latent Prints, Questioned Documents and Digital Evidence. The Laboratory has a staff of 88 testifying analysts and 60 support staff. The DFS has been accredited by ASCLD/LAB since January 5, 1989.

BACKGROUND

Rebecca Williams, a 19 year-old mother of three children, was raped and fatally stabbed in her home in Culpepper, Virginia, on June 4, 1982. Before her demise, she told a policeman that her attacker was a black man acting alone and who was a stranger to her. An autopsy was performed by Dr. James Beyer, Deputy Chief Medical Examiner. It disclosed that the victim suffered 38 stab wounds to the neck, chest, and abdomen, 14 of which penetrated internal organs and could, alone,

have caused death if untreated. Vaginal smears obtained during the autopsy were positive for the presence of relatively intact sperm and male prostatic enzyme. (See *Washington v. Commonwealth*, 323 S.E.2nd 577 (Va. 1984)). Evidence collected at the crime scene and elsewhere was submitted to the Virginia Division of Forensic Science (DFS) on June 7, 1982, (then known as the Bureau of Forensic Science) for analysis.

The initial evaluation of the evidence submitted in June 1982 included the identification and characterization of potentially probative biological and other evidence materials. Relevant to the biological evidence, the analysis involved the determination of the presence of semen, bloodstains and hair. In part, three items were found to contain semen with spermatozoa: a blanket (Item 25), two vaginal smears from the victim (Item 45), and two bloodstained vaginal swabs from the victim (Item 58). A smear was subsequently prepared from one of the swabs. No definitive results indicating a possible semen contributor were obtained with the serological typing methods employed. No blood examinations were conducted on the victim's fingernail scrapings, Items 55 and 56. Ten Negroid hairs and hair fragments were recovered from the shirt pockets, Item 72, of a shirt that was found by the victim's husband in a bedroom dresser about a week after the crime, and that did not belong to the residents. The above results, and others, were reported in a Certificate of Analysis dated August 19, 1982, and an Amended Certificate dated August 26, 1983. Three supplemental Certificates of Analysis were issued by the DFS reporting examination results on blood, saliva and hair exemplars from several initial suspects. (See the Certificates dated August 27, 1982, November 10, 1982, and December 9, 1982).

Earl Washington, Jr., an African American who is also known as Earl Junior Washington (Washington), became a suspect in the rape and murder of Rebecca Williams when he was arrested on May 21, 1983, on unrelated charges. A Hair and Saliva Samples Kit from the suspect was delivered to the DFS two days later. Two Certificates of Analysis, dated August 12, 1983 and September 8, 1983, were subsequently issued indicating that Washington's blood type was not consistent with the blood type of the victim or the blood recovered from the crime scene (which was consistent with the victim's).¹ Hair comparisons between the known hair exemplars from Washington submitted to the DFS and the hairs recovered from Item 72 were not conducted because the exemplar hair sample was inadequate for comparison.²

Washington's jury trial began on January 18, 1984, and he was convicted of capital murder of Rebecca Williams on January 20, 1984. On March 20, 1984, the trial court entered a final order imposing the death sentence. His conviction was affirmed by the Virginia Supreme Court (*Washington v. Commonwealth*, 323 S.E.2nd 577 (Va. 1984)) and the United States Supreme Court denied the Petition for Writ of Certiorari (*Washington v. Virginia*, 471 U.S. 1111 (1985)). Washington's state and federal habeas corpus petitions were also denied.

With the advent of DNA typing methods, additional analyses were conducted in 1993 and 1994. The remaining portion of the vaginal swab (Item 58) was examined with both the RFLP and HLA DQ α DNA typing methods. No DNA profile was obtained by the RFLP analysis. HLA DQ α

¹ Spermatozoa and/or spermatozoa heads were identified in five stains on a royal blue blanket, Item 25. Secretions in four of those stains were a type A, PGM 1, which is inconsistent with Washington, who is a type O, PGM 2-1. In a post-conviction collateral attack, Washington's habeas counsel argued that the trial counsel was ineffective for not arguing at trial that this test result was exculpatory. The Fourth Circuit Court of Appeals discussed this issue and the Commonwealth's rebuttal in the federal habeas corpus in *Washington v. Murray*, 4 F.3d 1285 (4th Cir. 1993).

² In a later federal habeas appeal, the court indicated that a request by defense counsel for a comparison between the hairs from the shirt and Washington's facial hair was denied. *Washington v. Murray*, 952 F.2d 1472, 1478 (4th Cir. 1991).

typing results were reported for the sperm fraction of the vaginal swab extract. The possible source was not identified in the Certificate of Analysis dated August 31, 1993, which is summarized in the table below.

DFS CERTIFICATE OF ANALYSIS DATED AUGUST 31, 1993
(DNA Analysis by RFLP and PCR at HLA DQ α Locus)

Item #	Description	Results	R. Williams	C. Williams	Washington	Tinsley	Comments
Item 48	R. Williams known blood sample	No RFLP profile					
Item 58	Vaginal swab (DFS)	No RFLP profile					
Item 48	R. Williams known blood sample	PCR DQ α Profile = 4, 4					
Item 58	Vaginal swab (DFS) Sperm fraction	PCR DQ α profile = 1.1, 1.2, 4	Different profile	Different profile	No sample submitted	No sample submitted	The non sperm fraction was inconclusive
Item 59	C. Williams known blood sample	PCR DQ α profile = 4, 4					

In October 1993, the Virginia Attorney General and Washington's attorney, Gerald Zerkin, reached an agreement for further testing, memorialized in a letter dated October 13, 1993. Pursuant to the agreement, additional blood was obtained from Washington and sent to the DFS and to CBR Laboratories, Inc., a forensic laboratory retained by Mr. Zerkin. Two microscopic slides prepared from the vaginal smear, Item 45, were sent by the DFS to CBR Laboratories, Inc., for PCR DNA comparison between the material on the slides and the genetic material extracted from Washington's blood. Mr. Bing of CBR Laboratories, Inc. conducted the analysis. He was unable to obtain a profile from the slides.

An additional provision of the agreement referred to above was for the DFS to compare Washington's blood with "the material prepared from the vaginal swab itself . . ." Washington's HLA DQ α profile derived from his newly provided reference sample was compared to the profile obtained from the sperm fraction of Item 58, and the examiner determined that Washington, individually or in combination with Rebecca Williams or her husband, could not have contributed the 1.1 allele found in the Item 58 sperm fraction profile. This result was reported in the Certificate of Analysis dated October 25, 1993, illustrated in the following table:

DFS CERTIFICATE OF ANALYSIS DATED OCTOBER 25, 1993
(DNA Analysis by PCR at HLA DQ α Locus)

Item #	Description	Results DQ α	Washington	R. Williams	C. Williams	Comments
Item 1	Washington's known blood sample	1.2, 4				
Item 58	Vaginal Swabs (DFS) sperm Fraction	1.1, 1.2, 4	Excluded*	Excluded*	Excluded*	See 8/31/93 report
Item 48	R. Williams known blood sample	4, 4				See 8/31/93 report
Item 59	C. Williams known blood sample	4, 4				See 8/31/93 report
* Unless another individual possessing a 1.1 allele is also present.						

In January 1994, negatives of the photographs of the test results of the PCR HLA DQ α typing on the vaginal swab (Item 58) and the reference samples for R. Williams, C. Williams and Washington, and the positive and negative control samples, were sent to Roche Molecular Systems in care of Dr. Henry A. Erlich, Director of Human Genetics and one of the developers of the HLA DQ α typing technology. At the request of Barry Weinstein and Robert Hall, two of Washington's post-conviction attorneys, Dr. Erlich was asked to evaluate the test results obtained with the AmpliType HLA DQ α PCR Amplification and Typing Kit by the DFS. His evaluation concluded that the results cast significant doubt about Washington's contribution to the sample. In his January 13, 1994, report, Dr. Erlich went on to say:

The presence of the directly demonstrated 1.1 allele cannot have been contributed by Mr. Washington, the victim, or her husband. While the presence of the 1.2 allele can be inferred from the relative dot intensities, the dots do not indicate that the 1.2 allele should be paired in a genotypic combination with the 4 allele. In fact, the data support a genotypic combination of the 1.2 allele with the 1.1 allele.

Results of additional HLA DQ α typing on Item 25, the royal blue blanket, were reported in the Certificate of Analysis dated January 14, 1994, indicating that Earl Washington Jr. was not the donor of the HLA DQ α type located on the blanket. In addition, the vaginal smears, Item 45, were examined and no profile was obtained. The table below summarizes those findings.

DFS CERTIFICATE OF ANALYSIS DATED JANUARY 14, 1994
(DNA Analysis by PCR at HLA DQ α Locus)

Item	Description	Results	Washington	Tinsley	Pendleton	Comments
Item 25, stain A, non-sperm fraction	Royal blue blanket	Mixture 1.1, 4, (2) 1.3*	Eliminated 1.2, 4	Not submitted	Eliminated 4, 4	
Item 25, stain A, sperm fraction	Royal blue blanket	1.1, 4	Eliminated 1.2, 4	Not submitted	Eliminated 4, 4	

Item 25, stain B, non-sperm fraction	Royal blue blanket	Mixture 1.1, 4, (2), 1.3*	Eliminated 1.2, 4	Not submitted	Eliminated 4, 4	
Item 25, stain B, sperm fraction	Royal blue blanket	1.1, 4	Eliminated 1.2, 4	Not submitted	Eliminated 4, 4	
Item 25, stain C, non-sperm fraction	Royal blue blanket	Mixture 1.1, 4, (2) (1.3)	Eliminated 1.2, 4	Not submitted	Eliminated 4, 4	
Item 25, stain C, sperm fraction	Royal blue blanket	Mixture 1.1, 4, (2)	Eliminated 1.2, 4	Not submitted	Eliminated 4, 4	
Item 25, stain D, non-sperm fraction	Royal blue blanket	Mixture 1.1, 1.2, 4, (2)	Eliminated, but not as clearly 1.2, 4	Not submitted	Eliminated 4, 4	Believes genotype of D is 1.1, 1.2
Item 25, stain D, sperm fraction	Royal blue blanket	Mixture 1.1, 1.2, 4*	Eliminated, but not as clearly 1.2, 4	Not submitted	Eliminated 4, 4	Believes genotype of D is 1.1, 1.2
Item 50	Pendleton's standard	4, 4				
Item 45	Vaginal smears (DFS)	Insufficient material				
Numbers in () indicate a weak allele (equal to or more intense than C dot).						
An * indicates a very weak allele (less intense than C dot)						

As a result of the DNA testing, then Governor Wilder commuted Washington's death sentence on January 14, 1994, to life imprisonment with the possibility of parole. Purportedly, the Governor did not offer further relief to Washington because Washington was not absolutely eliminated as a contributor of the sperm fraction in Item 58.

In 2000, newly discovered smears collected by the Medical Examiner's office during the original investigation were submitted to the laboratory for analysis. This evidence consisted of vaginal (two smears, Items 121A and B), labial (two smears, Items 121C and D), anal (two smears, Items 121 E and F), thighs (two smears, Items 121 G and H) and buttocks (two smears, Items 121 I and J) smears collected from the victim. Previously examined evidence was also resubmitted at this time for additional testing. Using the more recently developed Promega PowerPlex 1.1 and 2.1 STR typing methods, which were implemented in the DFS in 1998 and 2000, respectively, STR DNA typing results were reported for stains on the blanket (Item 25), vaginal smear (Item 58) and one of the vaginal smears submitted from the Medical Examiner (Item 121A). Analyses were also performed on fingernail scrapings from the victim, (Items 55 and 56). Conclusions of the testing were presented in a Certificate of Analysis dated September 8, 2000, reflected in the table below.³ The Director of the DFS informed Governor Gilmore of these results on September 18, 2000, by letter, in addition to providing a copy of the Certificate to his office.

DFS CERTIFICATE OF ANALYSIS DATED SEPTEMBER 8, 2000
(Promega PowerPlex 1.1 and 2.1 STR Typing)

Item #	Description	Results	R. Williams	C. Williams	Washington	Tinsley's Databank Profile	Comments

³ This Certificate of Analysis was supplemented by a letter dated November 2, 2004, to the Commonwealth's Attorney to correct the Table of PowerPlex 1.1 Typing Results by adding the results of the analyses on Items 55 and 56, fingernail scrapings.

Items 55 & 56	Victim's fingernail scrapings	Mixture	Major Contributor				No minor Contributor was identified
Item 72	Shirt from Dresser	No conclusion					Limited amount of DNA
Item 121A, Non-sperm fraction	Vaginal smear (ME)	Mixture	Cannot be eliminated	No conclusion	Eliminated	<u>Eliminated</u>	
Item 121A, sperm fraction	Vaginal smear (ME)	No DNA profile					
Item 58, Non-sperm fraction	Vaginal smear (DFS)	Mixture	Cannot be eliminated	Eliminated	Eliminated	<u>Eliminated</u>	
Item 58, sperm fraction	Vaginal smear (DFS)	Mixture	<u>Eliminated</u>	Eliminated	Eliminated	<u>Eliminated</u>	This profile was searched against the DNA data bank with no results
Item 25, stain A (sperm and non-sperm fractions)	Royal blue Blanket	Mixture	Cannot be eliminated	Eliminated	Eliminated	Cannot be eliminated	
Item 25, stain B (sperm and non-sperm fractions)	Royal blue Blanket	Mixture	Cannot be eliminated	Eliminated	Eliminated	Cannot be eliminated	
Item 25, stain I	Royal blue Blanket	Mixture	Cannot be eliminated	Eliminated	Eliminated		
Item 25, stain D, non-sperm fraction	Royal blue Blanket	Mixture	Cannot be eliminated	Eliminated	Eliminated	Cannot be eliminated	
Item 25, stain D, sperm fraction	Royal blue Blanket	Profile	Eliminated	Eliminated	Eliminated	Consistent with	DNA data bank search yielded Tinsley

On September 14, 2000, a blood sample from Kenneth Tinsley was received by the DFS. That sample was analyzed using the Promega PowerPlex 1.1 and 2.1 systems and compared with the profiles obtained and reported in the September 8, 2000 report.⁴ Thereafter, the Governor granted Washington an absolute pardon for the rape and murder of Rebecca Williams on October 2, 2000,⁵ stating that "[i]n my judgment, a jury afforded the benefit of the DNA evidence and the analysis available to me today would have reached a different conclusion regarding the guilt of Earl

⁴ In the September 8, 2000 report, Tinsley's data bank profile had been used as a reference.

⁵ The court in *Washington v. Buraker*, 322 F.Supp.2d 692 (W.D.Va. 2004) indicates that the pardon occurred on September 7, 2000.

Washington.”⁶ However, the Governor did not exonerate Washington on the basis of factual innocence.

A Certificate of Analysis dated October 18, 2000, was then issued reporting that the findings of the analyses using Tinsley’s known standards were consistent with the results from the September 8, 2000 Certificate of Analysis, that had used Tinsley’s DNA profile obtained from the DNA databank. That report is summarized in the following table:

DFS CERTIFICATE OF ANALYSIS DATED OCTOBER 18, 2000
(Promega PowerPlex 1.1 and 2.1 STR Typing)

Item #	Description	Results	R. Williams	Tinsley	Comments
Item 121A, non-sperm Fraction	Vaginal smear (ME)	Mixture (9/8/00 Report)	Cannot be eliminated	Eliminated	Other suspects eliminated
Item 121A, sperm fraction	Vaginal smear (ME)	No DNA profile (9/8/00 Report)			
Item 58, non-sperm fraction	Vaginal smear (DFS)	Mixture (9/8/00 Report)	Cannot be Eliminated	Eliminated	Other suspects eliminated
Item 58, sperm fraction	Vaginal smear (DFS)	Mixture (9/8/00 Report)	Eliminated	Eliminated	
Item 25, stain D, non-sperm fraction	Royal blue blanket	Mixture (9/8/00 Report)	Cannot be eliminated	Cannot be Eliminated	Other suspects Eliminated
Item 25, stain D, sperm fraction	Royal blue blanket	Profile (9/8/00 Report)	Eliminated	Consistent With	1 in 6.0 billion. Other suspects eliminated

In September 2002, Washington filed a civil suit in federal court against state law enforcement officers and prosecutor who participated in his arrest, detention and prosecution.⁷ The DFS is not a named defendant in that suit, which is still continuing.

Pursuant to a discovery request in Washington’s federal civil suit, evidence from the victim was sought from the Virginia State Police and the Virginia Medical Examiner’s Office. The Medical Examiner’s Office provided duplicate body orifice slides collected during the Williams autopsy to Forensic Science Associates (FSA) of Richmond, California, and Dr. Edward T. Blake. Washington’s attorney requested that PCR based DNA typing be conducted on the relevant body orifice slides to determine whether Washington, Tinsley and/or Clifford Williams could be eliminated as the source of spermatozoa from Rebecca Williams’ vagina.⁸ Profiles used as standard reference samples for Rebecca Williams, Clifford Williams, Washington and Tinsley were obtained from previous DFS Certificates of Analysis and FSA Item 2, as illustrated in the summary table below which represents a synopsis of the findings described in Dr. Blake’s report.

⁶ Statement of Governor Jim Gilmore Regarding the Pardon of Earl Washington, October 2, 2000, <http://www.thedigitaldominion.com>.

⁷ See *Washington v. Buraker*, 322 F.Supp.2d 692 (W.D.Va. 2004) and *Washington v. Buraker*, 322 F.Supp.2d 702 (W.D.Va. 2004).

⁸ See the April 1, 2004, redacted report by Forensic Science Associates.

FORENSIC SCIENCE ASSOCIATES REPORT DATED APRIL 1, 2004
(STR DNA Typing using Profiler Plus)

Item #	Description	Microscopic Examination	Further Examination	R. Williams	C. Williams	Washington	Tinsley	Comments
ME#361 [Item #1] (DFS #2004D)	Lips Slide	No sperm	No					
ME#361 [Item #2] (DFS #2004B)	Oral Slide	Numerous epithelial cells	Yes, used as reference sample					
ME#361 [Item 3] (DFS #121B)	Vaginal slide B	Numerous spermatozoa	Yes		Eliminated	Eliminated	Cannot be eliminated	Sperm combined with Item 4 for DNA extraction
ME#361 [Item 4] (DFS #121D)	Labia Slide D	Moderate number of spermatozoa	Yes		Eliminated	Eliminated	Cannot be eliminated	Sperm combined with Item 3 for DNA extraction
ME#361 [Item 5] (DFS #121E)	Anal Slide E	A few spermatozoa	No					
ME#361 [Item 6] (DFS #121H)	Thigh Slide H	No spermatozoa	No					
ME#361 [Item 7] (DFS #121I)	Buttocks slide I	No spermatozoa	No					

Dr. Blake's report indicated that his "analysis demonstrates that Kenneth Tinsley not only shares the same genetic profile as the source of the spermatozoa from the Williams royal blue blanket #25 in area D described in the VBFS report dated October 18, 2000, he also shares the same genetic profile as the source of the spermatozoa from the Rebecca Williams vagina."

On April 28, 2004, Washington's counsel sent Governor Warner a letter requesting the appointment of "an independent auditor to conduct an audit and re-examination of a portion of the casework generated by the Commonwealth's Division of Forensic Science (DFS)," and attaching a copy of Dr. Blake's report. At the Governor's request, the DFS reviewed the matters related in the counsel's letter and initiated an internal audit of case number 81N-6691.

