

National Institute of Justice

Office of Investigative and Forensic Sciences

Final Reports Submitted Under Forensic DNA Backlog Reduction Program
Fiscal Year 2010 Awards

May 2014

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FY10 Backlog Final Reports

This table is a summary of DNA Backlog Awards issued in FY2010. Following this table are their respective abstracts.

FY10 Recipient Name	Award Number	Award Amount
State of Alaska Department of Public Safety	2010-DN-BX-K061	\$207,143
Alabama Department of Forensic Sciences	2010-DN-BX-K115	\$977,422
Arkansas State Crime Laboratory	2010-DN-BX-K089	\$655,503
Arizona Department of Public Safety	2010-DN-BX-K123	\$529,918
Arizona Criminal Justice Commission	2010-DN-BX-K113	\$815,490
San Diego County, California	2010-DN-BX-K077	\$274,261
Fresno County Sheriff Department, California	2010-DN-BX-K093	\$120,000
Kern County District Attorney, California	2010-DN-BX-K088	\$217,581
County of Ventura, California	2010-DN-BX-K087	\$100,102
City of Los Angeles, California	2010-DN-BX-K104	\$1,246,257
City of San Diego, California	2010-DN-BX-K080	\$283,722
Sacramento County, California	2010-DN-BX-K071	\$435,152
County of San Bernardino, California	2010-DN-BX-K116	\$492,591
California Department of Justice	2010-DN-BX-K050	\$1,937,262
Los Angeles County Sheriff's Department, California	2010-DN-BX-K100	\$1,561,300
County of Alameda, California	2010-DN-BX-K082	\$228,894
County of Santa Clara, California	2010-DN-BX-K064	\$255,873
County of San Mateo, California	2010-DN-BX-K054	\$163,633
Orange County Sheriff-Coroner Department, California	2010-DN-BX-K067	\$358,567
Contra Costa County, California	2010-DN-BX-K127	\$206,267
City And County of San Francisco, California	2010-DN-BX-K124	\$320,274
Oakland Police Department, California	2010-DN-BX-K068	\$371,622
City and County of Denver, Colorado	2010-DN-BX-K158	\$203,992
Colorado Department of Public Safety	2010-DN-BX-K154	\$580,593
Connecticut Department of Public Safety	2010-DN-BX-K066	\$482,762
D.C. Metropolitan Police Department	2010-DN-BX-K108	\$393,960
Delaware Health and Social Services	2010-DN-BX-K057	\$284,323
Palm Beach County Sheriff's Office, Florida	2010-DN-BX-K078	\$403,372
Miami Dade Police Department, Florida	2010-DN-BX-K081	\$1,023,044
Florida Department of Law Enforcement	2010-DN-BX-K101	\$3,460,812
St. Lucie County Sheriff's Office, Florida	2010-DN-BX-K092	\$120,404
Pinellas County, Florida	2010-DN-BX-K128	\$333,220
Broward County Sheriff's Office, Florida	2010-DN-BX-K121	\$491,061
Georgia Bureau of Investigation	2010-DN-BX-K094	\$2,147,541
Honolulu Police Department, Hawaii	2010-DN-BX-K091	\$162,603
Iowa Department of Public Safety	2010-DN-BX-K152	\$247,571

Idaho State Police	2010-DN-BX-K156	\$161,260
Illinois State Police	2010-DN-BX-K166	\$2,567,585
Northeastern Illinois Regional Crime Laboratory	2010-DN-BX-K167	\$285,287
DuPage County Sheriff Department, Illinois	2010-DN-BX-K146	\$285,287
Indiana State Police	2010-DN-BX-K150	\$619,386
Marion County-Indianapolis Forensic Services Agency, Indiana	2010-DN-BX-K200	\$366,000
Johnson County Kansas	2010-DN-BX-K159	\$146,000
Kansas Bureau of Investigation	2010-DN-BX-K172	\$386,672
Commonwealth of Kentucky	2010-DN-BX-K118	\$585,500
Louisiana State Police	2010-DN-BX-K099	\$1,340,084
Massachusetts State Police	2010-DN-BX-K106	\$1,042,765
City of Boston, Massachusetts	2010-DN-BX-K122	\$307,967
Anne Arundel County, Maryland	2010-DN-BX-K126	\$135,682
Maryland State Police	2010-DN-BX-K102	\$359,687
Baltimore County, Maryland	2010-DN-BX-K072	\$228,266
Prince George's County, Maryland	2010-DN-BX-K095	\$342,645
Montgomery County, Maryland	2010-DN-BX-K070	\$103,236
City of Baltimore, Maryland	2010-DN-BX-K105	\$469,149
Maine State Police	2010-DN-BX-K059	\$150,000
Michigan State Police	2010-DN-BX-K153	\$2,322,645
Hennepin County, Minnesota	2010-DN-BX-K155	\$107,965
Minnesota Department of Public Safety	2010-DN-BX-K164	\$527,121
St. Louis County, Missouri	2010-DN-BX-K149	\$170,244
St. Louis Metro Police Department, Missouri	2010-DN-BX-K147	\$350,292
St. Charles County, Missouri	2010-DN-BX-K148	\$36,866
Missouri State Highway Patrol	2010-DN-BX-K173	\$433,826
Board of Police Commissioners, Kansas City, Missouri	2010-DN-BX-K163	\$389,367
Mississippi Department of Public Safety	2010-DN-BX-K044	\$387,663
Montana Department of Justice	2010-DN-BX-K157	\$150,000
Charlotte-Mecklenburg Police Department, North Carolina	2010-DN-BX-K165	\$349,200
North Carolina Department of Crime Control and Public Safety	2010-DN-BX-K198	\$1,646,246
North Dakota Office of the Attorney General	2010-DN-BX-K162	\$150,000
Nebraska State Patrol	2010-DN-BX-K199	\$250,756
New Hampshire Department of Safety	2010-DN-BX-K060	\$150,000
New Jersey Department of Law and Public Safety	2010-DN-BX-K086	\$1,312,628
City of Albuquerque, New Mexico	2010-DN-BX-K107	\$182,756
State of New Mexico	2010-DN-BX-K063	\$410,730
Las Vegas Metropolitan Police Department, Nevada	2010-DN-BX-K076	\$872,138
Suffolk County, New York	2010-DN-BX-K084	\$246,252
County of Westchester, New York	2010-DN-BX-K042	\$220,330
Monroe County, New York	2010-DN-BX-K090	\$238,475

County of Erie, New York	2010-DN-BX-K109	\$526,201
New York State Police, New York	2010-DN-BX-K096	\$982,414
Onondaga County Health Department, New York	2010-DN-BX-K047	\$152,935
Nassau County, New York	2010-DN-BX-K049	\$225,515
City of New York, Office of Chief Medical Examiner	2010-DN-BX-K058	\$1,000,000
City of Columbus, Ohio	2010-DN-BX-K056	\$149,688
City of Mansfield, Ohio	2010-DN-BX-K046	\$305,000
Cuyahoga County Coroner's Office, Ohio	2010-DN-BX-K073	\$105,000
State of Ohio Office of The Attorney General	2010-DN-BX-K111	\$831,053
Montgomery County, Ohio	2010-DN-BX-K085	\$249,688
Stark County, Ohio	2010-DN-BX-K075	\$106,400
Hamilton County, Ohio	2010-DN-BX-K062	\$105,000
Oklahoma State Bureau of Investigation	2010-DN-BX-K051	\$571,115
City Of Tulsa, Oklahoma	2010-DN-BX-K079	\$317,089
Oregon State Police	2010-DN-BX-K161	\$451,278
Allegheny County Forensic Lab Division, Pennsylvania	2010-DN-BX-K065	\$283,541
Pennsylvania State Police	2010-DN-BX-K053	\$1,110,575
City of Philadelphia, Pennsylvania	2010-DN-BX-K114	\$968,799
Instituto de Ciencias Forenses, Puerto Rico	2010-DN-BX-K069	\$439,101
Rhode Island Public Safety Grant Administration Office	2010-DN-BX-K125	\$150,000
County of Richland, South Carolina	2010-DN-BX-K074	\$113,950
South Carolina Law Enforcement Division	2010-DN-BX-K103	\$1,399,617
South Dakota Office of the Attorney General	2010-DN-BX-K175	\$150,000
Tennessee Bureau of Investigations	2010-DN-BX-K098	\$2,069,661
City of Austin, Texas	2010-DN-BX-K045	\$182,097
University of North Texas Health Science Center	2010-DN-BX-K119	\$785,138
Texas Department of Public Safety	2010-DN-BX-K043	\$2,401,320
Harris County, Texas	2010-DN-BX-K097	\$796,580
Tarrant County, Texas	2010-DN-BX-K052	\$280,892
County of Bexar, Texas	2010-DN-BX-K048	\$127,119
City of Houston, Texas	2010-DN-BX-K112	\$1,143,339
Utah Department of Public Safety	2010-DN-BX-K117	\$281,036
Virginia Department of Forensic Science	2010-DN-BX-K120	\$920,520
Vermont Department of Public Safety	2010-DN-BX-K055	\$150,000
Washington State Patrol	2010-DN-BX-K174	\$1,004,276
Wisconsin Department of Justice	2010-DN-BX-K151	\$713,980
West Virginia State Police	2010-DN-BX-K083	\$230,014
Wyoming Office of the Attorney General	2010-DN-BX-K160	\$150,000
TOTAL FUNDING		\$64,811,981

FY10 Recipient Name: State of Alaska Department of Public Safety

Award Number: 2010-DN-BX-K061

Award Amount: \$207,143

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To reduce forensic DNA sample turnaround time and increase the throughput of the laboratory, ultimately decreasing the Alaska SCDL's backlog (requests for DNA analysis exceeding 30 days) of forensic DNA casework. Funds from this award are to be used for training database analysts to become fully qualified casework analysts, for analysis of forensic DNA casework requests, and calibration of pipettes used in DNA casework.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The primary goal of this program is to complete analysis of forensic DNA casework requests. The laboratory plans to achieve this goal by using award funds to purchase supplies that will be used in training additional DNA analysts and in analysis of forensic DNA casework samples. As of December 31, 2010, the laboratory has not used any funds from this award and therefore, no cases have been completed with funds from this award.

The laboratory anticipates spending down the FY09 Forensic DNA Backlog Reduction Award during the next reporting period, and then beginning to use funds from the FY10 award for training and analysis of DNA casework.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - To reduce forensic DNA sample turnaround time and increase the throughput of the laboratory, ultimately decreasing the Alaska SCDL's backlog (requests for DNA analysis exceeding 30 days) of forensic DNA casework. Funds from this award are to be used for training database analysts to become fully qualified casework analysts, for analysis of forensic DNA casework requests, and calibration of pipettes used in DNA casework.

Progress Oct-Dec 10 - The laboratory is spending down the FY09 Forensic DNA Backlog Reduction Award. Therefore, no procurements from the FY10 award occurred during this award period and no analyses have been completed using funds from this award.

Progress Jan-June 11 - To date, the laboratory has spent \$1200 for pipette calibrations. The laboratory has also purchased Promega PP16 amplification kits for training, EZ1 DNA Investigator kits for forensic DNA casework, and polymer and consumable supplies for training and analysis of forensic DNA casework.

In determining analysis funded under a particular award, the laboratory tracks lot numbers for PP16 primer, AmpliTaq Gold polymerase and EZ1 Investigator reagent cartridges. Attached to this summary are DNA worksheets showing the use of the PP16 kits [purchased under this award] by the casework trainees. It is anticipated that training will be completed during the next reporting period.

As of the end of this reporting period, no forensic DNA casework requests have been completed using funds from this award. It is anticipated that the recently purchased EZ1 DNA Investigator kits will be used in forensic DNA casework analysis during the next reporting period.

Since the last reporting period, the laboratory has seen a significant increase in the turnaround time for reporting on forensic DNA casework requests. This is owing to the completion of backlogged property crime requests from 2006 and 2007. Now that the laboratory is processing these cases, the turnaround time is expected to remain lengthy until previous years cases are

completed.

It should be noted however, that the lab has observed an increase in the number of samples processed per analyst and a substantial decrease in the backlog of forensic DNA casework requests (a 30% decrease since the beginning of the award period). This is a function of both increased analyst productivity and more active management of the backlog. This is expected to continue in subsequent reporting periods.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

During this reporting period, the laboratory has spent additional award funds for pipette calibrations, and reagents and consumable supplies for analysis of forensic DNA casework samples. The laboratory also purchased new CODIS hardware required for a mandatory software upgrade that will be occurring during the next reporting period. Since eligible profiles generated under this award must be entered into CODIS, the hardware purchase supports the original grant objectives.

In determining analysis funded under a particular award, the laboratory tracks lot numbers for PP16 primer, AmpliTaq Gold polymerase and EZ1 Investigator reagent cartridges.

As of the end of this reporting period, the laboratory has completed 136 forensic DNA casework requests using funds from this award. The laboratory anticipates completing a greater number of requests during the next reporting period as the three cross-training analysts begin processing casework requests. It is anticipated that they will complete all phases of their training during the next reporting period.

The laboratory expects to continue experiencing lengthy turnaround times for DNA casework requests as property crimes backlogged for several years are now being processed. As observed during this reporting period, the turnaround time should decrease slightly from one reporting period to the next as the lab gets more current.

At the end of this reporting period, the number of samples processed per analyst per month was only 18.5. This is most likely a result of analysts being away on personal leave at this time of year. During the first half of this reporting period, the number of samples processed per month was 35.6.

Once again, increased analyst productivity and active case management has resulted in a decrease in the backlog of forensic DNA casework requests, down to 224. This is expected to continue in subsequent reporting periods.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period, the laboratory has spent additional award funds for pipette calibrations, and reagents and consumable supplies for analysis of forensic DNA casework samples.

In determining analysis funded under a particular award, the laboratory tracks lot numbers for PP16 primer, AmpliTaq Gold polymerase and EZ1 Investigator reagent cartridges.

As of the end of this reporting period, the laboratory has completed 315 forensic DNA casework requests using funds from this award, exceeding the projected number by 50%.

The laboratory expects to continue experiencing lengthy, and possible even longer, turnaround times for DNA casework requests as property crimes backlogged for several years are now being processed. It is anticipated that this number will soon peak and begin decreasing.

Once again, increased analyst productivity and active case management has resulted in a decrease in the backlog of forensic DNA casework requests, down to 107. It is noted however, that the backlog of biological screening requests now exceeds 200. A year ago, biological screening requests were processed within 60 days and there was virtually no backlog. Loss of an experienced biological screening analyst has resulted in a substantial screening backlog, meaning cases are taking longer to move to the DNA section. The laboratory has recently completed training of a new biological screener and is using FY11 award funds to pay overtime to this person. Additionally, two DNA analysts are currently being trained in biological screening. Therefore, the lab may experience a slight increase in the DNA backlog as efforts are made to shift resources to biological screening.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

During this reporting period, the laboratory has spent the remaining funds from this award.

In determining analysis funded under a particular award, the laboratory tracks lot numbers for PP16 primer, AmpliTaq Gold polymerase and EZ1 Investigator reagent cartridges.

As of the end of this reporting period, the laboratory has completed 365 forensic DNA casework requests using funds from this award, exceeding the projected number by 75%.

The laboratory expects to continue experiencing lengthy turnaround times for DNA casework requests as property crimes backlogged for several years are now being processed. The turnaround time for major crimes has decreased slightly, resulting in a slight overall decrease in the turnaround time for DNA casework requests. This may increase slightly in the future, owing to the current backlog of screening requests.

The backlog of forensic DNA casework requests is steady, currently at 114. The laboratory did not experience a decrease during this reporting period owing to being offline during June and part of July while relocating to a new facility. It is anticipated that this backlog will continue to decrease, although more slowly than in previous months, as efforts are made to shift resources to biological screening.

The backlog of biological screening requests is now approaching 300. While a new biological screener, funded with the FY11 award, is now processing screening requests full-time, the number of requests received by the laboratory has increased steadily during 2012. The two DNA analysts being trained in biological screening are expected to come online by the end of 2012.

The lab plans to cross-train two additional analysts in 2013 to assist with handling the biological screening backlog. Therefore, the lab may experience a slight increase in the DNA backlog.

FY10 Recipient Name: Alabama Department of Forensic Sciences

Award Number: 2010-DN-BX-K115

Award Amount: \$977,422

Final Report:

GOALS:

1. Process a minimum of 250 backlogged cases in-house using Federally funded supplies and overtime.
2. Provide Continuing Education opportunities for 20 scientists to attend the Promega, and National CODIS Conferences, respectively.
3. Capacity related Goals –
 - a. Upgrade LIMS system and purchase DNA network servers.

b. DNA Laboratory Renovations.

~~4. Outsource 75 sexual assault cases, plus additional forensic samples~~ Goal removed via Budget Modification GAN approved on 6/9/2011

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

For this reporting period the State of Alabama has focused its efforts on completing the necessary administrative requirements associated with acceptance of the Award and receiving drawdown ability for Award funds in an effort to develop its plan to seamlessly transition to begin work on the capacity portion of the Award.

The State of Alabama has not yet received drawdown ability of Award funds in this reporting period, and as such, all the capacity related goals of this Award are ONGOING.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

For this reporting period the State of Alabama has focused its efforts on completing the necessary administrative requirements associated with acceptance of the Award and receiving drawdown ability for Award funds in an effort to seamlessly transition to begin work on the capacity portion of the Award.

The State of Alabama received drawdown ability of Award funds in this reporting period, and has also recently been given approval for a BudMod GAN that re-allocates funds between categories to meet the capacity related goals of the Award, which will further insure the Award is completed in a timely manner while meeting the Goals of the State's proposal.

GOALS:

1. Process a minimum of 250 backlogged cases inhouse using Federally funded supplies and overtime: This goal is ONGOING as Alabama has not yet received drawdown ability for the supplies and overtime portion of our Award as during this reporting period Alabama is focused on meeting the casework Goals of the FY09 casework award.
2. Provide Continuing Education opportunities for 20 scientists to attend the Promega, and National CODIS Conferences, respectively. This Goal is ONGOING as these meetings occur in the fall of this year.
3. Capacity related Goal - Upgrade LIMS system and purchase DNA network servers: The State received approval for a BudMod GAN to allow it to purchase upgrades to the LIMS and network servers, and these Goals are ONGOING as the State regulatory approvals relating to the purchase of these items was recently started at the end of this reporting period with the BudMod GAN approval.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

For this reporting period the State of Alabama has accelerated its efforts on beginning work on this Award, as the State received and formally began drawdowns of Award funds in the latter part of the reporting period.

GOALS:

1. Process a minimum of 250 backlogged cases inhouse using Federally funded supplies and overtime: This goal is ONGOING as Alabama has accelerated the purchase of supplies and accruing overtime portion of our Award during this reporting period, and expects this to continue in the next reporting period.
2. Provide Continuing Education opportunities for 20 scientists to attend the Promega, and National CODIS Conferences, respectively. This Goal is ONGOING as these meetings occur in

the fall of this year. As such, the State will respectfully request a 6 month no-cost extension GAN to this Award to allow Alabama to meet the Goals outlined in the proposal and contained in the approved Budget.

3. Capacity related Goals - Upgrade LIMS system and purchase DNA network servers: The State received approval for a BudMod GAN in the last reporting period, and is pleased to report that the upgrade to the LIMS/Network servers was approximately 90% completed in this reporting period. As such, this Goal is ONGOING, but is expected to be completed in the next reporting period.

4. Capacity related Goal - DNA Laboratory renovations: This Goal is ONGOING as the last reporting period saw the State of Alabama finalize the architectural drawings and issue competitive bid specifications for the selection of a contractor for the renovation of the DNA Laboratory. Significant progress on the renovation of the Laboratory is expected in the next reporting period.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

For this reporting period the State of Alabama has continued its efforts on this Award, with significant progress on completing backlogged cases in the latter part of the reporting period.

GOALS:

1. Process a minimum of 250 backlogged cases inhouse using Federally funded supplies and overtime: This goal is ONGOING as at the end of the reporting period Alabama has completed a total of 207 cases, well ahead of the expected Goal for this Award. Alabama expects to exceed the Goal of analyzing 250 cases in the next reporting period encompassing the final 6 months of this Award.

2. Provide Continuing Education opportunities for 20 scientists to attend the Promega, and National CODIS Conferences, respectively. This Goal is ONGOING as these meetings occur in the fall of this year.

3. Capacity related Goals - Upgrade LIMS system and purchase DNA network servers: The State received approval for a BudMod GAN in the last reporting period, and is pleased to report that the upgrade to the LIMS/Network servers was COMPLETED during this reporting period.

4. Capacity related Goal - DNA Laboratory renovations: This Goal is ONGOING as the last reporting period saw the State of Alabama make significant progress in the DNA Laboratory renovations, and expects this Goal to be completed in the next reporting period.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

For this Final reporting period the State of Alabama has completed its efforts on this Award, with significant progress on completing backlogged cases in the latter part of the reporting period.

GOALS:

1. Process a minimum of 250 backlogged cases inhouse using Federally funded supplies and overtime: This goal is COMPLETED as at the end of this Final reporting period Alabama has completed a total of 403 cases, in excess of the expected Goal for this Award.

2. Provide Continuing Education opportunities for 20 scientists to attend the Promega, and National CODIS Conferences, respectively. This Goal is COMPLETED as these scientists attended the Promega and National CODIS Conference meetings in the fall of 2012, completing this Goal..

3. Capacity related Goals - Upgrade LIMS system and purchase DNA network servers: The State received approval for a BudMod GAN in the last reporting period, and is pleased to report that the upgrade to the LIMS/Network servers was COMPLETED during this reporting period.
4. Capacity related Goal - DNA Laboratory renovations: This Goal is COMPLETED as the last reporting period saw the State of Alabama finish the DNA Laboratory renovations, and complete this Goal.

FINAL REPORT:

The State of Alabama is grateful to the NIJ for its support of this vitally important Grant program. Through this very important and successful initiative Alabama was able to process over 400 backlogged cases, and identify one hundred and thirty nine (139) CODIS hits to previously unsolved casework, clearly demonstrating the State and National impact Alabama has through this successful program.

Alabama was able to continue its successful grant efforts and remain a national leader in forensic DNA testing through a coordinated and strategic approach to this Award that focused on increasing capacity through equipment and streamlining approaches, while addressing backlog reduction through inhouse supplies and overtime for personnel, thereby minimizing disruption to other laboratory activities.

This coordinated, efficient and effective approach not only exceeded the Goals of this important program, but more importantly, increased the capacity of Alabama's forensic laboratories statewide, which will insure that backlogs do not recur, even as requests for services continue to increase, again maximizing the impact of Federal funding for years to come.

FY10 Recipient Name: Arkansas State Crime Laboratory

Award Number: 2010-DN-BX-K089

Award Amount: \$655,503

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goal is to utilize the Forensic Casework DNA Backlog Reduction Program FY 2010 to decrease turnaround time, increase analyst throughput and decrease the number of backlogged DNA cases.

The objectives are to hire 3 additional Physical Evidence-Serologists to screen evidence for blood and semen and 2 additional DNA analysts to process this screened evidence for DNA upgrade the capillary electrophoresis instruments to increase throughput and decrease processing time by purchasing 3 3500xl

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The goal is to utilize the Forensic Casework DNA Backlog Reduction Program FY 2010 to decrease turnaround time, increase analyst throughput and decrease the number of backlogged DNA cases.

Progress Oct. - Dec. 10 - The lab has ordered the 3 - 3500xL from Applied Biosystems. They are set to be installed at the end of Jan. The 3500xLs have already been validated and the lab will be ready for the change over once they are installed and performance checked. The 5 forensic scientists have been hired and are set to start in Jan. We expect to begin to see the impact of the new hires within 6 months.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The goal is to utilize the Forensic Casework DNA Backlog Reduction Program FY2010 to decrease turnaround time, increase analyst throughput and decrease the number of backlogged DNA cases. The objectives are to hire 3 additional Physical Evidence-Serologists to screen evidence for blood and semen and 2 additional DNA analysts to process this screened evidence for DNA upgrade the capillary electrophoresis instruments to increase throughput and decrease processing time by purchasing 3 3500xl.

Progress Jan. - Jun 2011: The 3 3500xl from Applied Biosystems have been installed, performance checked, and are being utilized in processing casework. This objective (increasing throughput and decreasing processing time) is complete.

3 Physical Evidence-Serology analysts and 2 DNA analysts were hired and started on Jan.9, 2011. The 3 Physical Evidence-Serology analysts resigned (4/28, 4/29, 4/29/11). The positions have been advertised. One Physical Evidence-Serology analyst has been hired with a start date of 7/11/11. We are in the process of filling the other 2 Physical Evidence-Serology positions. The 2 DNA analysts are currently training under qualified DNA analysts. They are expected to complete their training in August 2011. This objective is not complete.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The goal is to utilize the Forensic Casework DNA Backlog Reduction Program FY2010 to decrease turnaround time, increase analyst throughput and decrease the number of backlogged DNA cases. The objectives are to hire 3 additional Physical Evidence-Serologists to screen evidence for blood and semen and 2 additional DNA analysts to process this screened evidence for DNA.

The following changes were made to the grant in this period:

1. Because of problems of retaining the new analysts, we were not spending the salary and fringe categories as quickly as expected. A Budget Modification GAN was approved to utilize some of these funds to pay JusticeTrax LIMS maintenance fees for the Forensic Biology licenses and purchase an EZ1xl instrument.

Items completed during this period:

1. The JusticeTrax maintenance fees for the Forensic Biology licenses have been paid. The EZ1xl has been purchased and received. It is currently undergoing performance checks and will be utilized in casework once these are complete.
2. One Physical Evidence analyst was hired on 7/11/11, completed training on 10/17/11 and began processing property cases for serological evidence.
3. One Physical Evidence analyst was hired 9/19/11 and is expected to complete training 1/10/12. This analyst will process property cases for serological evidence once her training is complete.
4. One Physical Evidence analyst was hired 12/12/11 and is expected to complete training in March 2012. This analyst will process property cases for serological evidence once her training is complete.
5. Two new DNA analysts were hired on 11/14/11 (the 2 DNA analysts that we hired in January 2011- one resigned in Aug. 2011 and the other transferred positions Nov. 2011). These analysts are expected to complete training in July 2012.

Challenges faced during this period:

1. Retaining Physical Evidence and DNA analysts once they are hired and trained. This has set us back on our progress for FY10 funding.

Summary: The turnaround time number for the end of this period looks as if the grant funding is not helping our situation but in fact it is. Now that we have one Physical Evidence trained, she is tackling the property crime backlog. These cases are typically the oldest cases in this section dating back to early 2011. Because she is working these older cases, the turnaround time is higher in this reporting period. We anticipate as the other two physical evidence analysts and DNA analyst are trained and processing cases, the property crime backlog and turnaround time will decrease, causing a decrease in the overall turnaround time. We have completed all objectives and purchased all equipment in this grant and are requesting closeout of this grant.

FY10 Recipient Name: Arizona Department of Public Safety

Award Number: 2010-DN-BX-K123

Award Amount: \$529,918

Final Report:

GOALS AND OBJECTIVES: The goals and objectives of this grant are to improve DNA sample processing, reduce backlogs and improve CODIS hits by purchasing one laser micro-dissection instrument, one integrated sample handling and extraction robot, an upgrade to one existing robot to an integrated sample handling and extraction robot, 37 DNA lab automation computer workstations and 12 Gene Mapper ID-X software licenses. NOTE: The goals and objectives have been updated as a result of a GAN received in December 2011.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The FY10 Forensic DNA Backlog Reduction Program Award was dated October 1, 2010 as the start date. Since this Grant was awarded to purchase DNA equipment for capacity enhancement purposes, no cases have yet been processed through the use of this award. The procurement process has been initiated, but significant time will be required to purchase the equipment, finish installation, complete instrument validation, etc. Therefore, no expenditures have been made during these first three months of this Grant and no equipment purchased.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this semi-annual period, January 1, 2011 to June 30, 2011, the AZ DPS Crime Laboratory proceeded with the procurement of one advanced capillary electrophoresis system as specified in the grant application. (Note for clarification: A second capillary electrophoresis instrument was purchased at the same time on the FY09 Forensic DNA Backlog Reduction Program) This FY10 instrument has been installed and the instrument manufacturer, Applied Biosystems, has provided training, including hands on applications. Some test samples have been run, but a full validation must still be completed. The training is provided free with the instrument purchase. Also purchased was the capillary electrophoresis software, including the server license and a 10-pack client license. No supplies were purchased in the reporting period, but will be purchased after July 1, 2011 to complete the validation.

Regarding the second part of the grant, the purchase of a laser micro-dissection instrument, the Arizona State Procurement process has begun, but a system has not yet been purchased. Purchase, installation and validation are planned for completion in the next six months by the

end of the grant period, March 31, 2012.

The goals and objectives of this grant were to improve DNA sample processing, reduce backlogs and improve CODIS hits by purchasing the one advanced capillary electrophoresis instrument and a laser micro-dissection instrument. The progress toward the goals of purchasing the items is listed above and the performance metrics are listed on the attached performance metrics form. (Note for clarification: In the prior performance metrics portion of the progress report for October to December 2010, the initial backlog reported (2,261) was an inadvertent carry over of the backlog reported on the FY09 grant (2009-DN-BX-K086). The correct backlog for October 1, 2010 of 2,625 DNA cases was reported on the performance metrics portion of the January to June 2011 progress report.)

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

During this reporting period July 1, 2011 to December 31, 2011 the Arizona Department of Public Safety Crime Laboratory requested a no-cost grant adjustment. This adjustment was required to effectively utilize the awarded funds and to improve DNA capacity.

The original grant award approved one capillary electrophoresis unit for the DPS DNA Database Unit and Gene Mapper ID-X software licenses for DNA databasing. These items were approved for purchase with FY09 monies on Grant 2009-DN-BX-K086. Therefore, this Grant (FY10 funds) was approved for changes as follows:

- Purchase 12 Gene Mapper ID-X software client licenses for DNA Casework, providing the new software to all DPS DNA Casework analysts (25 licenses in FY09 & 12 licenses in FY10 for a total of 37 licenses for all three Regional Crime Labs performing DNA analysis). The Gene Mapper ID-X software has mixture deconvolution and expert system capabilities included, which the current software does not. Since most casework DNA now involves DNA mixtures, mixture deconvolution software is a direct casework capacity enhancement.
- Purchase 37 DNA lab automation computer work stations. This provides a computer workstation for each DNA analyst located at their laboratory bench space for quickly tracking samples with bar codes making sure they are in the correct location, interfacing with the Crime Lab's LIMS and automation systems which integrate the robots and genetic analyzer systems enhancing analysis throughput times.
- Upgrade one existing Qiagen robot for the Central Regional Crime Lab DNA Casework Unit in Phoenix and purchase a companion Qiagen robot for the Southern Regional Crime Lab DNA Casework Unit in Tucson. These large integrated sample handling and extraction robots greatly enhance capabilities to robotically process samples.

In addition to the changes discussed above the AZ DPS Crime Laboratory System continues with other portions of the Grant previously approved. These portions are as follows:

- Purchase and implement a Laser Microdissection (LMD) microscope to improve the throughput of DNA casework samples, particularly violent crimes involving male/female mixed DNA samples. This LMD method will replace traditional differential extractions to separate male and female cells, will replace DNA quantitation analyses and will replace DNA clean-up procedures as DNA inhibitors are left behind during the microdissection process.
- Purchase supplies to validate two AB 3500xl Genetic Analyzers (capillary electrophoresis) units purchased from the FY09 Grant Award (2009-DN-BX-K086), a

Laser Microdissection (LMD) microscope and two large integrated sample handling and extraction robots to be purchased on this Grant, 2010-DN-BX-K123.

As of December 31, 2011, the following has been accomplished now that the GAN's were approved in December, 2011.

- The GeneMapper ID-X licenses were purchased and placed in use for DNA analysts.
- The validation supplies for two new AB 3500XL genetic analyzers were purchased and used to complete the validation, by December 31, 2011. The new 3500 XL instruments were then available to be put into use in January, 2012, to provide a significant capacity enhancement for processing DNA database samples.
- 37 DNA lab automation computer workstations have been ordered with receipt anticipated in January, 2012.
- A Sole Source GAN was approved for the purchase of one new DNA Qiagen robot and the upgrade of a second DNA robot. The order has been placed for these DNA robots.
- The purchase of the laser micro-dissection instrument for enhancing the collection of samples and speeding DNA processing, has been progressing through the Arizona Procurement process with a competitive bid. This instrument purchase should be completed prior to March 31, 2012.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Since this grant award ended March 31, 2012, this progress report covers the three months of January 1, 2012 to March 31, 2012.

As of March 31, 2012, the following was accomplished in the final 3 months of the grant period. All remaining capacity enhancement equipment and supplies were purchased and received. These include:

- 37 DNA Automation computer workstations were received and configured to interface with the AZ DPS Crime Laboratory's Laboratory Information and Management System (LIMS) and with the GeneMapper ID-X Software previously purchased on this grant. GeneMapper ID-X was written to interface with Windows XP, but all new computers now come with Windows 7 and Applied Biosystems, the GeneMapper ID-X Software developer, had to provide an upgrade to allow GeneMapper ID-X to interface with Windows 7. This upgrade was completed by Applied Biosystems and available to AZ DPS in March 2012. Therefore, the migration to the new more efficient DNA Automation workstations took place in March, the final month of the grant.
 - The new DNA Qiagen Sample Handling and Extraction Robot was received and installed. Also, the upgrade of an existing Qiagen Robot to a full Sample Handling and Extraction Robot was completed and installed. Both robots required only minor validations as a previously purchased Qiagen Sample Handling and Extraction Robot underwent a full, detailed validation.
 - The Laser Microdissection instrument for enhancing DNA collection from criminal evidence, particularly sex assaults, was received and installed. This instrument also required a manufacturer's upgrade to Windows 7 to become fully functional. The validation supplies were purchased and utilized in the validation.
-

FY10 Recipient Name: Arizona Criminal Justice Commission

Award Number: 2010-DN-BX-K113

Award Amount: \$815,490

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime.

Goal 2 – Increase the lab’s capacity by purchasing automation tools for capillary electrophoresis setup.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members.

Goal 4 – Increase capacity by purchasing three computer workstations, including document and barcode scanners, an evidence freezer and a copy of GeneMapper IDX software.

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime.

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members.

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst’s capacity by increasing the time available to process additional case samples.

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware and software.

Tucson PD

Goal 1 – Increase the capacity of the laboratory by purchasing equipment to process DNA cases more expeditiously.

Goal 2 – Increase the capacity of the laboratory by outsourcing DNA analysis to a private vendor lab and hiring a grant-funded crime scene specialist position.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime. Progress – Twenty cases were analyzed; six CODIS hits were obtained.

Goal 2 – Increase the lab’s capacity by purchasing automation tools for capillary electrophoresis setup. Progress – No progress

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – One staff has been registered for a training course.

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime.

Progress – There has been no activity during this reporting period.

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members. Progress - There has been no activity during this reporting period.

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies. Progress – There has been no activity during this reporting period.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst's capacity by increasing the time available to process additional case samples. Progress – The grant was accepted by the City Council and a financial account was established. No funds have been expended as yet.

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware a software.

Progress – The grant was accepted by the City Council and a financial account was established. No funds have been expended as yet.

Tucson PD

Goal – Increase the capacity of the laboratory by purchasing equipment to process DNA cases more expeditiously. Progress – A budget modification was requested and approved to purchase new CODIS server and software upgrade, two 9700 Thermocyclers and ABI GM IDX software for seven users. The Thermocyclers have been purchased, delivered and are being validated.

Goal – Increase the capacity of the laboratory by hiring a grant-funded crime scene specialist position. Progress – Applications for the grant-funded position were reviewed; interviews were scheduled for January 4, 2011.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime. Progress – Eighty-two cases were analyzed; 26 profiles were entered into CODIS and 8 CODIS hits were obtained.

Goal 2 – Increase the lab's capacity by purchasing automation tools for capillary electrophoresis setup. Progress – The multi-channel pipettes have been ordered and delivered.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – Two staff attended ABI Forensic DNA Analyst training course.

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime.

Progress – The lab was able to start using overtime funds in June 2011 and able to complete screen for biological evidence on one case. This case is not related to the 2009 grant.

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members. Progress - There has been no activity during this reporting period.

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies. Progress – The ABI 3130 XL upgrade was ordered. The Adobe Acrobat licenses were ordered and installed.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst's capacity by increasing the time available to process additional case samples. Progress – The thermocyclers and centrifuges have been identified; purchase requests have been submitted. No funds have been expended as yet.

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware and software. Progress – Scottsdale PD Information Technology Division has identified the appropriate computer hardware needed and will place the order for both hardware and software in July. No funds have been expended as yet.

Tucson PD

Goal 1– Increase the capacity of the laboratory by purchasing equipment to process DNA cases more expeditiously. Progress – The new CODIS server and software upgrade have been installed. The two thermocyclers have been validated.

Goal 2 – Increase the capacity of the laboratory by hiring a grant-funded crime scene specialist position. Progress – The grant-funded crime scene specialist has been hired, trained and is assisting the DNA section with screening of DNA evidence for biological materials. She, working with the DNA supervisor, has prepared and sent out 226 DNA samples from 49 cases to the vendor laboratories (funded through 2009-DN-BX-K100). This position also screened an additional 125 samples from 38 cases for in-house. The backlog decreased by 67 cases from 295 to 228. The turnaround time has decrease from 139 days to 106 and the average number of samples per DNA analyst per month has increased from 20 samples to 26 samples. Cases analyzed and reviewed that were funded through 2009-DN-BX-K100 will only be counted on the 2009-DN-BX-K100 reports.

Goal 3 – Increase the capacity by providing training opportunities for Forensic Services Section staff members. Progress – There has been no activity during this reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime. Progress – 206 cases were analyzed; 17 profiles were entered into CODIS and 4 CODIS hits were obtained.

Goal 2 – Increase the lab’s capacity by purchasing automation tools for capillary electrophoresis setup. Progress - None

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – Five staff attended ABI GeneMapper ID-X software training course.

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime. Progress – The lab was able to reduce the number of backlogged DNA cases with outsourcing by 47 cases with overtime by one DNA case. In addition 119 cases were screened for biological evidence on overtime.

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members. Progress – The technical team leader attended the Promega Conference in October 2011

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies. Progress – The color printers, computers, thermal cyclers and CODIS server were purchased during this reporting period. The 3130XL upgrade was received, installed, validated and is online for casework.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst's capacity by increasing the time available to process additional case samples. Progress – The thermacycler and centrifuges have been purchased and installed. Management will now monitor to work output to see if additional equipment increases productivity in the DNA unit.

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware and software. Progress – All required updated computer software and hardware for the CODIS systems have been purchased and installed. The goal of maintaining FBI required standard computer for CODIS operations have been met.

Tucson PD

Goal 1 – Increase the capacity of the laboratory by purchasing equipment and software to process DNA cases more expeditiously. Progress – The purchase of the Bode SIMS software has been placed on a temporary hold as the DNA section researches this product and other possible solutions to the problem. It is expected that a decision regarding which software to purchase will be made during the January – March 2012 quarter.

Goal 2 – Increase the capacity of the laboratory by hiring a grant-funded crime scene specialist position. Progress – The grant-funded screener continues to assist the DNA section by screening evidence items in the laboratory for potential DNA. This position screened a total of 395 items from 94 cases for either outsourcing (outsourcing funded by 2009-DN-BX-K100) or by in-house analysis.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – One DNA analyst attended the 22nd Annual Symposium on Human Identification. Training for GeneMapper ID-X software will be tentatively scheduled for the January – March 2012 quarter. Once dates have been confirmed, NIJ approval will be sought. NOTE: The crime laboratory relocated to a new facility during this reporting period. That move impacted number of samples per analyst per month, case processing and turnaround time. Also impacting the case processing and turnaround time was the outsourcing of several very old cases.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime. Progress – 155 cases were analyzed; 49 profiles were entered into CODIS and 10 CODIS hits. Overtime funds were utilized during this award period to analyze cases. No additional cases will be worked using overtime on this grant. We submitted a GAN to reallocate funds from several categories, including the overtime category, so that additional computer equipment and software could be purchased; the reallocation was approved. The total number of cases analyzed using overtime funds on this grant is 463.

Goal 2 – Increase the lab's capacity by purchasing automation tools for capillary electrophoresis setup. Progress – No additional progress.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – No additional progress.

Goal 4 – Increase capacity by purchasing three computer workstations, including document and barcode scanners, an evidence freezer and a copy of GeneMapper IDX software. Progress - During this award period several items were purchased and received by the laboratory. A stereomicroscope with camera and stand was purchased and adds great flexibility to the

examination of evidence within the laboratory. The stand allows for the microscope to be moved to the evidence instead of needing to take the evidence to the microscope. Two Near IR/Modified SLR Digital Cameras will allow for specialized photography of evidence items, particularly in photographing bloodstains. A UV crosslinker was purchased, received and is being utilized in the laboratory to help promote and ensure sterility in the tubes and equipment utilized in the screening process. 6 computer monitors were acquired for use in the report review process. These additional monitors all reviewers/analysts to have several windows open, allowing for ease in reviewing data. Two thermal mixers, utilized in the DNA extraction process, were received. The addition of this new equipment increases our existing extraction capacity. A CODIS computer workstation and office software was also purchased and received during this award period.

NOTE: *The laboratory developed a new report in LIMS at the end of 2011 for calculating backlog based upon the NIJ preferred formula of Existing cases + New cases – completed cases – cancelled cases. We discovered issues with this report while calculating the performance metrics for January – June 2012.

The backlog number for the July –December 2011 time frame has been recalculated and was corrected from the 981 listed on the report originally to 369. The new number Mesa reported is accurate based upon our existing backlog. Based upon NIJ concern, staff completed a hand count of their backlog and they are confident that they are not underreporting their backlog. The laboratory has printed documentation regarding these figures and will continue to calculate the backlog using the NIJ formula for future metrics.

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime.

Progress: The DNA vendor contract expired March 31, 2012; a DNA vendor selection RFQ was competed with two DNA outsource vendors selected, Strand Analytical and Orchid Cellmark.

Contracts were executed with both vendors. In addition, the laboratory was able to reduce the number of backlogged DNA cases with outsourcing by 89 cases and with overtime 79 DNA cases. In addition, 79 cases were screened for biological evidence on overtime.

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members. Progress: Goal completed December 2011

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies.

Progress: The high speed scanners and DNA paginator were purchased, delivered and are in use. The Adobe Acrobat Professional license and the instrument network router/server was purchased and waiting to be installed. Two of the four computers were ordered and received. The remaining two were ordered.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst's capacity by increasing the time available to process additional case samples. Progress – The thermacycler and centrifuges have been purchased and installed. Management will now monitor to work output to see if additional equipment increases productivity in the DNA unit. Goal completed December 2011

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware and software. Progress – All required updated computer software and hardware for the CODIS systems have been purchased and

installed. The goal of maintaining FBI required standard computer for CODIS operations have been met. Goal completed December 2011

Tucson PD

Goal 1 – Increase the capacity of the laboratory by purchasing equipment to process DNA cases more expeditiously. Progress – The lab decided against purchasing the BODE Sims software at this time. The lab chose to use a different funding source for GeneMapper IDX software training. The process to purchase an ABI 3500 Genetic Analyzer is in process.

Goal 2 – Increase the capacity of the laboratory by outsourcing DNA analysis to a private vendor lab and hiring a grant-funded crime scene specialist position. Objective – To increase capacity by hiring a grant-funded crime scene specialist to screen cases. Progress – The grant-funded screener continues to assist the DNA section by screening evidence items for potential DNA. For the period of January – March, 282 samples from 92 cases were screened. Objective – To outsource 90 cases to a private vendor lab. Progress – 63 cases have been outsourced during this report period. Ten reports were returned to the lab and sent to requesting agency. One sample from the 10 returned cases was uploaded to CODIS; no hits at this point.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – No activity this reporting period.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime. Progress – No additional cases were analyzed using overtime and no additional profiles were entered into CODIS. There was 1 CODIS hit. Goal completed September 2012

Goal 2 – Increase the lab's capacity by purchasing automation tools for capillary electrophoresis setup. Progress – Goal completed June 2011

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – Goal completed December 2011

Goal 4 – Increase capacity by purchasing three computer workstations, including document and barcode scanners, an evidence freezer and a copy of GeneMapper IDX software. Progress: Three computer workstations, including document and bar code scanners were received and are in use. An evidence freezer was ordered and received. GeneMapper IDX software has been received. Goal completed December 2012

NOTE 1: Following the January 1 2012 – June 30, 2012 reporting period, NIJ inquired about Mesa's new method of determining the backlog. After having additional opportunities to determine their backlog at the end of each reporting period, they agree that the NIJ formula is not an appropriate method of determining Mesa's backlog. Their laboratory reports metrics, including backlog numbers, to police department staff at the end of each month. Additionally, effective January 1, 2012, the lab changed the way it was counting new case requests. When new requests are entered into LIMS additional requests are immediately added for DNA services. They believe that this new method will service to more accurately assess Mesa's backlog. Because this went into place January 1, 2012 and they determine backlog numbers on a monthly basis, the lab does have historical data that differs from previously reported backlog numbers for the January – June 2012 reporting period. It is always their intention to report the most accurate numbers possible.

NOTE 2: Please note that the metrics for the average number of days between submission of a sample to the laboratory and the delivery of test results to the requesting agency reflects only

persons crimes for Mesa for the beginning of the grant cycle. Effective this reporting period and forward it will include property crimes as well and be average of persons and property crimes.

** ACJC Staff erred in reporting 55 samples analyzed per month during this report period. It should have been 41

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime.

Progress: Backlogged cases were reduced by 114 outsourced cases and 59 cases that were worked on overtime. Additionally 63 cases were screened for biological evidence on overtime.

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members. Progress: Goal completed December 2011

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies.

Progress: All equipment (less four computers) has been received and is in use. Two computers have been received, but are not installed and the other two computers have been ordered.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst's capacity by increasing the time available to process additional case samples.

Progress – The thermocycler and centrifuges have been purchased and installed. Management will now monitor to work output to see if additional equipment increases productivity in the DNA unit. Goal completed December 2011

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware and software. Progress – All required updated computer software and hardware for the CODIS systems have been purchased and installed. The goal of maintaining FBI required standard computer for CODIS operations have been met. Goal completed December 2011

***ACJC Staff erred in reporting 58 samples analyzed per month during this report period. It should have been 51

Tucson PD

Goal 1 – Increase the capacity of the laboratory by purchasing equipment to process DNA cases more expeditiously. Progress –The ABI 3500 Genetic Analyzer has been purchased and will be installed during the next quarter.

Goal 2 – Increase the capacity of the laboratory by outsourcing DNA analysis to a private vendor lab and hiring a grant-funded crime scene specialist position. Objective – To increase capacity by hiring a grant-funded crime scene specialist to screen cases. Progress – Funding for the screener was shifted to another DNA Backlog grant in order to assist the DNA section by screening evidence items for potential DNA. Objective Completed

Objective – To outsource 15 cases with 90 samples to a private vendor lab.

Progress – A total of 62 cases with 138 samples have been outsourced report period; 135 to Sorenson and 3 to LabCorp. A GAN was approved to transfer funds from Contract Services (outsourcing) to Personnel, ERE and Equipment. From January – March 2012, 39 cases were outsourced and returned April – June 2012. From April – June 2012, 21 cases were outsourced and returned July – September 2012. Two cases were outsourced July – September 2012 and were returned during the same reporting period. Objective Completed. Goal Completed.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – Goal Completed

* NOTE: Tucson experienced software issues and were unable to pull required data for reporting from Oct – Dec 2012. This information will be amended when Tucson is able to access corrected data.

FINAL PROGRESS REPORT 6: January 1, 2013 – March 30, 2013 - FINAL
Mesa PD

Goal 1 – Decrease the backlog caused by the increase of new requests for testing by using overtime. Progress – Four hundred sixty three cases were analyzed using overtime, 92 profiles were entered into CODIS and 23 CODIS hits. Goal completed September 2012

Goal 2 – Increase the lab's capacity by purchasing automation tools for capillary electrophoresis setup. Progress – The multi-channel pipettes were delivered. Goal completed June 2011

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – Two staff attended the ABI Forensic DNA Analyst training and five staff attended the ABI GeneMapper IDX software training. Goal completed December 2011

Goal 4 – Increase capacity by purchasing three computer workstations, including document and barcode scanners, an evidence freezer and a copy of GeneMapper IDX software. Progress: A stereomicroscope with camera and stand was purchased and adds great flexibility to the examination of evidence within the laboratory. The stand allows for the microscope to be moved to the evidence instead of needing to take the evidence to the microscope. Two Near IR/Modified SLR Digital Cameras will allow for specialized photography of evidence items, particularly in photographing bloodstains. A UV crosslinker was purchased, received and is being utilized in the laboratory to help promote and ensure sterility in the tubes and equipment utilized in the screening process. Six computer monitors were acquired for use in the report review process. These additional monitors all reviewers/analysts to have several windows open, allowing for ease in reviewing data. Two thermal mixers, utilized in the DNA extraction process, were received. A CODIS computer workstation and office software was also purchased and received during this award period. Three computer workstations, including document and bar code scanners were received and are in use. An evidence freezer was ordered and received. GeneMapper IDX software has been received. The addition of this new equipment increases our existing extraction capacity. Goal completed December 2012

NOTE 1: Following the January 1 2012 – June 30, 2012 reporting period, NIJ inquired about Mesa's new method of determining the backlog. After having additional opportunities to determine their backlog at the end of each reporting period, they agree that the NIJ formula is not an appropriate method of determining Mesa's backlog. Their laboratory reports metrics, including backlog numbers, to police department staff at the end of each month. Additionally, effective January 1, 2012, the lab changed the way it was counting new case requests. When new requests are entered into LIMS additional requests are immediately added for DNA services. They believe that this new method will service to more accurately assess Mesa's backlog. Because this went into place January 1, 2012 and they determine backlog numbers on a monthly basis, the lab does have historical data that differs from previously reported backlog numbers for the January – June 2012 reporting period. It is always their intention to report the most accurate numbers possible.

NOTE 2: Please note that the metrics for the average number of days between submission of a sample to the laboratory and the delivery of test results to the requesting agency reflects only persons crimes for Mesa for the beginning of the grant cycle. Effective this reporting period and forward it will include property crimes as well and be average of persons and property crimes.

Phoenix PD

Goal 1 – Reduce the number of backlogged DNA cases by outsourcing to accredited private laboratories, hiring a temporary scientist and lab technician and paying current staff overtime. Progress: Over the entire grant, backlogged DNA cases were reduced by 341 outsourced cases and 139 cases that were worked on overtime. Additionally 266 cases were screened for biological evidence on overtime. The outsourcing goal was exceeded by 150 cases due to cost effective outsourcing of 1-2 item cases. During this grant, the outsourcing vendor contracts ended. A new RFP was completed with new vendor contracts awarded. Goal completed

Goal 2 – Increase capacity by providing training opportunities for Forensic Biology Unit staff members.

Progress: One staff attended Promega training Goal completed December 2011. Although the turnaround time increase since the beginning of the grant period, the samples analyzed per analyst per month has improved by 11 percent.

Goal 3 – Increase capacity by purchasing capacity enhancing equipment and supplies.

Progress: The ABI 3130 XL upgrade was purchased. The color printers, thermal cyclers, CODIS server, high speed scanners, DNA paginator, instrument network router and two computers were purchased, received and installed. All purchased items are in use. Due to a delay in department ordering, two computers and one Adobe Acrobat license orders were not purchased.

Scottsdale PD

Goal 1 - Reduce the amount of down time of DNA examiners while waiting for a thermocycler to become available and therefore increase the analyst's capacity by increasing the time available to process additional case samples.

Progress – The thermocycler and centrifuges have been purchased and installed. Management will now monitor to work output to see if additional equipment increases productivity in the DNA unit. Goal completed December 2011

Goal 2 – Maintain the FBI required standard computer hardware for CODIS operations within the crime laboratory by acquiring upgrade in hardware and software. Progress – All required updated computer software and hardware for the CODIS systems have been purchased and installed. The goal of maintaining FBI required standard computer for CODIS operations have been met. Goal completed December 2011

Tucson PD

Goal 1 – Increase the capacity of the laboratory by purchasing equipment to process DNA cases more expeditiously. Progress – The ABI 3500 Genetic Analyzer has been purchased and installed. Goal Completed

Goal 2 – Increase the capacity of the laboratory by outsourcing DNA analysis to a private vendor lab and hiring a grant-funded crime scene specialist position. Objective – To increase capacity by hiring a grant-funded crime scene specialist to screen cases. Progress – The grant-funded screener continues to assist the DNA section by screening evidence items for potential DNA. She examined 1028 samples from 273 cases were screened during this entire grant. Objective Completed. Objective – To outsource 15 cases with 90 samples to a private vendor lab. Progress – A total of 62 cases with 138 samples have been outsourced report period; 135 to Sorenson and 3 to LabCorp. Objective Completed. Goal Completed.

Goal 3 – Increase capacity by providing training opportunities for Forensic Services Section staff members. Progress – One DNA staff member attended the 22nd International Symposium on Human Identification using these grant funds. Goal Completed

NOTE: Tucson continues to experience software issues regarding turn-around time for the Oct – Dec 2012 time period. It is unknown when this issue will be fixed and the data available.

FY10 Recipient Name: San Diego County, California

Award Number: 2010-DN-BX-K077

Award Amount: \$274,261

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - Purchase a microscopic imaging system for screening of sexual assault case evidence.

Goal 2 - Purchase upgraded computer equipment for the Lab's local CODIS system.

Goal 3 - Use award funds to provide continuing education opportunities to DNA analysts via a variety of seminars that will satisfy the federal continuing education requirements for DNA analysts. Travel and training expenses will not exceed 5 percent of total award funds.

Goal 4 - Use award funds to finance the validation of the Lab's Tecan EVO-150.

Goal 5 - The Lab will use award funds to purchase one-year maintenance agreements for six pieces of DNA analysis equipment acquired with last year's award.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: Progress - A request for bids has been issued through the County's Department of Purchasing and Contracting. We expect to receive the responses to this request, and award a contract for the imaging system, early in 2011.

Goal 2: Progress - We are coordinating the purchase of four CODIS client computers through our Department's data services division. We expect to purchase an upgraded CODIS server toward the end of the award period.

Goal 3: Progress - Arrangements are being made to have two DNA analysts attend the 2011 meeting of the American Academy of Forensic Sciences using award funds.

Goal 4: Progress - A request for bids has been issued through the County's Department of Purchasing and Contracting. We expect to receive the responses to this request, and award a contract for the validation service, early in 2011.

Goal 5: Progress - We are working with suppliers to purchase maintenance agreements for the described equipment. We expect to complete these purchases early in 2011.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: Progress - A contract to provide the imaging system has been awarded to Nikon Instruments and a purchase order has been placed. We expect to take delivery on the system early in the next reporting period.

Goal 2: Progress - We have completed the purchase and installation of four CODIS client computers through our Department's data services division. We expect to purchase an upgraded CODIS server toward the end of the award period.

Goal 3: Progress - Two DNA analysts attended the 2011 meeting of the American Academy of Forensic Sciences using award funds. We were planning to have one analyst attend the spring meeting of the California Association of Criminalists, and another the Bode Advanced DNA Technical Workshop - West. Owing to a scheduling conflict, both these analysts attended the Bode meeting.

Goal 4: Progress - A contract for validation services has been awarded to Sorenson Forensics, and the validation is currently in progress.

Goal 5: Progress - All of the planned maintenance agreements have been purchased.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Progress – The imaging system has been installed and is currently in use.

Goal 2: Progress - We have completed the purchase and installation of four CODIS client computers and a new CODIS server through our Department's data services division.

Goal 3: Progress - Two DNA analysts attended the 2011 meeting of the American Academy of Forensic Sciences using award funds. We were planning to have one analyst attend the spring meeting of the California Association of Criminalists, and another the Bode Advanced DNA Technical Workshop - West. Owing to a scheduling conflict, both these analysts attended the Bode meeting.

Goal 4: Progress – The validation is complete, pending receipt and approval of the final documentation.

Goal 5: Progress - All of the planned maintenance agreements have been purchased.

FINAL REPORT: January 1, 2012 – June 30, 2012

Goal 1: Progress – The imaging system has been installed and is currently in use.

Goal 2: Progress - We have completed the purchase and installation of four CODIS client computers and a new CODIS server through our Department's data services division. We have also purchased several computers and printers for our LIMS, using excess funds transferred from other categories of our award budget (please see GAN #3).

Goal 3: Progress - Two DNA analysts attended the 2011 meeting of the American Academy of Forensic Sciences using award funds. We were planning to have one analyst attend the spring meeting of the California Association of Criminalists, and another the Bode Advanced DNA Technical Workshop - West. Owing to a scheduling conflict, both these analysts attended the Bode meeting.

Goal 4: Progress – The validation is complete, and the Tecan instrument is currently in use.

Goal 5: Progress - All of the planned maintenance agreements have been purchased.

A note about the performance metrics – the rather dramatic increase in our average turnaround time during this reporting period was caused by the completion of a number of very old analysis requests, some of them dating back several years. The availability of overtime funds from our 2011 DNA Backlog Program award made it possible for us to address these requests.

FY10 Recipient Name: Fresno County Sheriff Department, California

Award Number: 2010-DN-BX-K093

Award Amount: \$120,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goal of this grant is to analyze 20 backlogged cases using the funding provided

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

This grant was awarded on 9/13/2010. The Fresno County Board of Supervisors accepted this award 10/19/2010.

In order to reduce the DNA case backlog the Sheriff's Department Forensic Laboratory is using accredited/certified DNA laboratories to analyze the backlogged cases. As we have not closed out the 2009 DNA backlog Reduction Grant, no funds have been encumbered or expended using the 2010 grant. The completion of the 2009 grant is expected in January of 2010, this will allow us to start the 2010 grant in late January or early February.

Within the time frame of this progress report zero backlogged DNA cases have been sent out for analysis and zero have been returned from the vendor after analysis. During this reporting period zero cases were sent for upload into CODIS. During this reporting period we have received zero CODIS hits on these cases.

The goal of this grant is to analyze 20 backlogged cases using the funding provided

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

This grant was awarded on 9/13/2010. The Fresno County Board of Supervisors accepted this award 10/19/2010.

In order to reduce the DNA case backlog the Sheriff's Department Forensic Laboratory is using accredited/certified DNA laboratories to analyze the backlogged cases. During this period we were able to close out the 2009 DNA backlog Reduction Grant, thus freeing up the funding from the 2010 grant and allowing us to start using this year funds to reduce out backlogged DNA cases.

Within the time frame of this progress report 17 backlogged DNA cases have been sent out for analysis and 7 have been returned from the vendor after analysis. During this reporting period two cases were sent for upload into CODIS. During this reporting period we have received no CODIS hits on these cases.

The goal of this grant is to analyze 20 backlogged cases using the funding provided. We are currently well over half way to our goal for this grant, with almost nine more months left in the grant. We should easily be able to meet or surpass the goals set forth in this grant.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

This grant was awarded on 9/13/2010. The Fresno County Board of Supervisors accepted this award 10/19/2010.

In order to reduce the DNA case backlog the Sheriff's Department Forensic Laboratory is using accredited/certified DNA laboratories to analyze the backlogged cases.

Within the time frame of this progress report 19 backlogged DNA cases have been sent out for analysis and 22 cases were returned. A total of 36 cases have been sent out for analysis during the life of this grant. During this reporting period seven cases were sent for upload into CODIS. A total of 9 cases have been uploaded into CODIS during the life of this grant. During this reporting period we have received 2 CODIS hits.

In this process we have found that getting the cases out is not an issue, but getting the cases back from our private vendor has been a speed bump in the process. We have been working through these issues with our service providers. They have been very willing to work with us to get the cases completed in order to meet the goal that we have set for ourselves with these funds.

The goal of this grant was to analyze 20 backlogged cases using the funding provided. We have currently sent out a total of 36 cases which meets and exceeds our goals for these funds.

FINAL REPORT:

This grant was awarded on 9/13/2010. The Fresno County Board of Supervisors accepted this award 10/19/2010.

In order to reduce the DNA case backlog the Sheriff's Department Forensic Laboratory is using accredited/certified DNA laboratories to analyze the backlogged cases.

A total of 39 cases were sent out for analysis during the life of this grant. A total of 12 cases have been uploaded into CODIS during the life of this grant. During this grant period, we have received a total of 4 CODIS hits.

Over the life of this grant we have been working through issues with our service providers to get all of the submitted cases analyzed. They have been very willing to work with us and have worked with us to get the cases completed in order to meet and surpass the goal that we have set for ourselves with these funds.

The goal of this grant was to analyze 20 backlogged cases using the funding provided. We were able to send out a total of 39 cases which meets and exceeds our goals for these funds.

FY10 Recipient Name: Kern County District Attorney, California

Award Number: 2010-DN-BX-K088

Award Amount: \$217,581

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

1. To maintain and/or increase capacity; to decrease TAT
2. To continue to participate in and expand the DNA Property Crime Program
3. Elimination of bottleneck at preliminary screening of evidence
4. Reduce and/or eliminate backlog

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The following goals and objectives were set for this award:

1. To maintain and/or increase capacity; to decrease TAT:

The goal of continued support of two (2) forensic science personnel has been met. With the funding provided through the NIJ 2010 DNA Backlog Grant, the Lab was in a position to continue to fund these positions for the remainder of the County's fiscal year. This goal has been met. Turn-around-time increased from the baseline established September 30, 2010. This is largely due to the 3 holidays during the October through December quarter, which is equivalent to approximately 15 days. The Lab anticipates seeing a reduction in the TAT from this matrix, as there will be less interruptions due to the holidays.

Taking into consideration that as DNA proves more and more valuable in both the identification of suspects and prosecution of those suspects, more and more	Oct-Nov 2010
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submissions will be made; however, staff size does not have the opportunity to increase to meet demand. For example, the Lab received in excess of 200 submissions during this quarter as indicated by the table below: Samples Submitted by Offense	
Theft	7
Sexual Assault	123
Burglary	44
Assault	9
Homicide	24
Grand Theft Auto	5
Robberies	4
Officer Involved Shooting	1
Paternity Testing	3
Attempt Homicide	4
Vehicular Manslaughter	1
Total Submissions	223

2. To continue to participate in and expand the DNA Property Crime Program: The Lab is continuing to participate in the Property Crime program and has extended it beyond the initial agency and pilot program. The Property Crime program has been especially successful and has presented excellent opportunities to obtain DNA, enter those profiles into CODIS, obtain a “hit,” or numerous “hits” related to on-going criminal activity.
3. Elimination of bottleneck at preliminary screening of evidence: The Lab had determined that a bottleneck was created at the screening process for DNA, with the removal of a non-functioning microscope. Included in the RFA was a request to purchase a new multi-functional screening microscope. A number of manufacturers were found, features were reviewed and staff determined that a particular microscope would best fit the DNA section’s needs. Five vendors were sent specifications and asked to submit bids. The microscope will be purchased next quarter when the procurement process has been completed.
4. Reduce and/or eliminate backlog: The baseline 179 backlog submissions were increased by 213, and 227 submissions were completed. The Lab anticipates increased submissions and increased Backlog due to the increased demand for DNA analyses. It is the Lab’s goal to effectively and efficiently reduce, if not eliminate that backlog.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

1. To maintain and/or increase capacity; to decrease TAT: The first goal of retaining two qualified experience DNA analysts was met and with funding provided by the NIJ 2010 DNA Backlog grant.

TAT has an increase this reporting period by 27.6 days; however, analysts have been completing backlog cases which greatly affect the TAT. During this reporting period 16 completed cases were over six (6) months old and of those 16 cases eight (8) cases were in excess of one (1) year old.

Additionally impacting the TAT:

- (a) A number of the analysts had big court cases, which required extensive preparation time, and them away from case work;
- (b) DNA staff has been working on a mixture Method update, which again is necessary, but takes staff away from case work; and
- (c) Staff was required to complete proficiency testing for the two new kits that staff has begun to use (Quant Dui and ID Plus).

The following table indicates the casework increase for the last six (6) month for the DNA Unit, and is broken out by type of exam requested by the submitting agencies: Exam Requested by Agency	
Bio Trace	16
Forensic Biology/DNA	154
Known Reference	169
Paternity DNA	5
Sexual Assault	58
Total DNA Unit Related	402

- 2. To continue to participate in and expand the DNA Property Crime
 The Lab is continuing with the Property Crimes. All Felony Property Crimes requests with possible DNA are submitted to the District Attorney’s Major Crimes Prosecutor, “Gate-keeper.” The Gate-keeper reviews the case to assure that it meets very specific criteria; one such requirement is that it must be a felony case to be submitted to the Lab for possible DNA analysis. The Project is very successful and will continue as staffing, time and funding allows.
- 2. Elimination of bottleneck at preliminary screening of evidence: The microscope has been purchase, delivered, installed, staff has received training and it is fully functional at the screening stage of process. This has greatly assisted in reducing the bottleneck.
- 4. Reduce and/or eliminate backlog: Again, as staff works diligently to reduce existing backlog, while working current caseload, with special attention to those involving violent crimes, new cases continue to be submitted to the Lab. Priority is given to the high-profile and violent crime cases, again, all cases are submitted to the Gate-keeper for approval to move forward for DNA analysis.

The table below indicates the DNA Unit of the Lab’s current backlog: BACKLOG	
Bio Trace	4
Forensic DNA	165
Known Reference	8
Paternity DNA	6
Sex Asst	28
Special PE	2
Total	213

Grant funded analysts’ activities during the reporting period:

Grant Funded Analyst 1:

Testified in a homicide case involving DNA, which resulted in a guilty conviction. She assisted in DNA sample collection training for law enforcement officers in Kern County on three occasions and participated in four crime-scene callout investigations including two homicides. She was instrumental in the validation of a new DNA quantitation method as

published by the Robin Cotton Group using a NIST standard curve which increased accuracy while decreasing cost. She also trained all other Kern County Crime Lab DNA Analysts in this new method. The new quantitation method is less time-consuming than the previous method and should assist in the reduction of TAT and backlog.

During this reporting she completed DNA analysis for the following cases: CASES COMPLETED	
DURING REPORTING PERIOD	
Burglary	11
Homicide	6
Sexual Assault	3
Assist	2
Theft	2
Grand Theft Auto	2
Paternity DNA	1
Total	27

Grant Funded Analyst 2:

Primarily worked on the Lab's backlog. He started on his first arson backlog case using a new kit. The kit is more sensitive and better able to handle inhibition in samples. Using this kit he was able to produce a DNA profile from the arson evidence submitted, which will be uploaded to CODIS. Additionally, he is responsible for the quality assurance review of kits as they are delivered to the DNA Unit prior to use and participates on the crime scene call out team.

He completed the following sample analysis: CASE COMPLETED	
DURING REPORTING PERIOD	
Burglary	11
Homicide	9
Sexual Assault	7
Assault	1
Theft	3
Attempted Homicide	2
Att Corporal Punishment	1
Robbery	4
Possession of Firearm	2
Total	40

During this reporting period the DNA Unit analyzed vaginal swabs from a sexual assault homicide case. Analysts were able to develop a DNA profile, using this DNA profile they were able to eliminate the two main suspects. The DNA profile has been up-loaded to CODIS.

PROGRESS REPORT 3: July 1, 2011 – September 30, 2011 – FINAL

The following goals and objectives were set for this award:

1. To maintain and/or increase capacity; to decrease TAT: The first goal, retention two qualified experience DNA analysts, was met with funding provided by the NIJ 2010 DNA Backlog grant. Turn around time (TAT) has an increase this reporting period by 4.4 from the baseline; however, analysts have been completing backlog cases which impacts the TAT. During this reporting period 13 completed cases were over six (6) months old.

Additionally impacting the TAT:

- (a) DNA staff has been working on a mixture Method update, which again is necessary, but takes staff away from case work; and
- (b) Staff was required to complete validation for the two new kits that staff began to use (Quant Duo and ID Plus).

The following table reflects the exams requested by submitting agencies over the last three months, July, August and September, 2011. This is an average of 13.4 requests per DNA analyst per month. Exams Requested by Agency	
Bio Trace	6
Forensic DNA	81
Known Reference	81
Paternity DNA	1
Sexual Assault	32
Total DNA Unit Related	201

- 2. To continue to participate in and expand the DNA Property Crime Program: The Lab is continuing with the Property Crimes as time permits. Felony Property Crimes with possible DNA, continue to be screened and approved by the District Attorney’s Major Crimes Prosecutor, “Gate-keeper.” The Project is very successful and will continue as staff’s time permits and funding allows.
- 3. Elimination of bottleneck at preliminary screening of evidence:
The microscope was purchased, installed and staff received training on the operation of the instrument. This Goal has been met.
- 4. Reduce and/or eliminate backlog:
Staff works diligently to reduce existing backlog, while working current caseload, with special attention to those cases, which involve violent crimes, as new cases continue to be submitted to the Lab. Priority is given to the high-profile and violent crime cases, again, all cases are submitted to the Gate-keeper for approval to move forward for DNA analysis. However, as more law enforcement is trained in the proper collection of evidence for possible DNA; Prosecution and Defense attorney realize the impact of DNA evidence; and Judges and Juries begin to expect DNA evidence; the demand for analysis continues to grow as well as the backlog. This is especially true when one considers the success rate for property crimes.

The table below indicates current Backlog for the Biological Sciences Section of the KRCL: Exam	Final Quarter
Bio Trace	6
Forensic DNA	231
Known Reference	20
Paternity DNA	3
Sex Assault	44
Spec Physical Evidence	2
Total	306

In addition to casework, the analyst has been working on validating a new statistics software program for the DNA Unit that deals with modified random match probability statistics.

During this reporting she completed DNA analysis for the following offenses: CASES COMPLETED DURING REPORTING PERIOD	
Burglary	7
Homicide	3
Sexual Assault	14
Assault	2
Attempt Homicide	3
Possession Firearm	1
Car jacking	1
Robbery	1
Total	32

Summary:

With funding provided by the 2010-DN-BX-K088 DNA Backlog Reduction (Grant), the DNA Analysis Unit was in a position to retain two qualified DNA Scientists (analysts). The analysts complete a total of 181 cases during the twelve month grant period. Additionally, the analysts perform technical peer review of other analysts' cases.

Had the Unit lost the staff, it would have taken years to replace the analysts, if and when funding became available again. Additionally, the new hires would require training and several years of experience to reach the level of the current analysts.

Retention of the analysts allowed them with the opportunity to participate as trainees on the Crime Scene call-out team, evenings and weekends. This is at no cost to the Grant, but a tremendous service to the victims of violent crimes.

The light microscope was purchased, installed, configured and staff received operational training. This purchase has proven invaluable at the preliminary screening of evidence for possible biological trace and has virtually eliminated the bottleneck that had existed.

During the Grant period 131 profiles have been uploaded to CODIS, 60 CODIS Hits have been obtained, and the grant funded analysts have worked, assisted with and completed 181 cases.

*Note: A correction was made to the optional matrix for all reporting periods to reflect grant funded analysts only.

FY10 Recipient Name: County of Ventura, California

Award Number: 2010-DN-BX-K087

Award Amount: \$100,102

Final Report:

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1A) The person that was hired under the 2008 DNA backlog reduction grant (April 20 to September 30, 2009) accepted a full time permanent position as of September 30, 2009. The grant position was re-advertised and a candidate was selected. This person passed background and started in December 2009. This person finished her DNA training in June 2010 and has been doing casework since that time.

The analyst hired has been working on the FY 09 DNA Backlog Reduction Grant (at this time Goal 1B) Overtime was not used during this quarter to help reduce the backlog.

Goal 2) The backlog at the beginning of this grant (October 1, 2010) was 202 cases. The backlog at the end of this reporting period (December 31, 2010) was 244 cases. The backlog increased by 42 cases. This increase is due to the DNA section receiving more DNA cases and also many forensic scientists were on vacation during the holidays.

Goal 3) The turn-around time at the beginning of this grant (October 1, 2010) was 112 days. The turn-around time at the end of this reporting period (October 1 - December 31, 2010 data) was 89 days. A decrease of 23 days. This represents a 20% decrease in turn-around time which was our goal.

The average number of samples analyzed per analyst decreased from 70 per analyst (at the beginning of the grant) to 53 per analyst (October 1 - December 31, 2010 data). The average samples analyzed per analyst over a eighteen month period runs around 55. The decrease from the third quarter (70) the last quarter (53) can be largely attributed to vacation being taken during the holidays.

Goal 4) The analyst hired has been working on the FY 09 DNA Backlog Reduction Grant and therefore no profiles have been entered into CODIS using FY 10 funding.

Scientists did not attend any training during this grant period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1A) The person that was hired under the 2008 DNA backlog reduction grant (April 20 to September 30, 2009) accepted a full time permanent position as of September 30, 2009. The grant position was re-advertised and a candidate was selected. This person passed background and started in December 2009. This person finished her DNA training in June 2010 and has been doing casework since that time.

The analyst hired started working on the FY 10 DNA Backlog Reduction Grant as of March 5, 2011.

Goal 1B) Overtime was used during this period (Jan-Jun) to help reduce the backlog by 26 cases.

Goal 2) The backlog at the beginning of this grant (October 1, 2010) was 202 cases. The backlog at the end of this reporting period (June 30, 2011) was 254 cases. The backlog increased by 52 cases. This increase is due to the DNA section receiving more DNA cases.

Goal 3) The turn-around time at the beginning of this grant (October 1, 2010) was 112 days. The turn-around time at the end of this reporting period (Jan 1 - Jun 30, 2011 data) was 154 days. An increase of 42 days. This represents a 37% increase in turn-around time. The increase in turn-around time can be attributed to the DNA section starting to work on property crime cases that have been in the backlog for longer periods of time.

The average number of samples analyzed per analyst decreased from 70 per analyst (at the beginning of the grant) to 48 per analyst (January 1 - June 30, 2011 data). The average samples analyzed per analyst over a two-year period runs around 53.

Goal 4) The DNA analyst hired using FY 10 funding completed 19 DNA cases. 10 DNA profiles were entered into CODIS, which resulted in 5 CODIS hits. (start date of March 5, 2011)

Overtime was used to partially work on an additional 25 cases. 9 DNA profiles were entered into CODIS from these cases, which resulted in 3 CODIS hits.

Six scientists attended training during this grant period using DNA backlog funds.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1A) The person that was hired under the 2008 DNA backlog reduction grant (April 20 to September 30, 2009) accepted a full time permanent position as of September 30, 2009. The grant position was re-advertised and a candidate was selected. This person passed background and started in December 2009. This person finished her DNA training in June 2010 and has been doing casework since that time.

The analyst hired started working on the FY 10 DNA Backlog Reduction Grant as of March 5, 2011.

Goal 1B) Overtime was used during this period (July - December, 2011) to help reduce the backlog by 20 cases.

Goal 2) The backlog at the beginning of this grant (October 1, 2010) was 202 cases. The backlog at the end of this reporting period (Dec 31, 2011) was 227 cases. The backlog increased by 25 cases. This increase is due to the DNA section receiving more DNA cases.

Goal 3) The turn-around time at the beginning of this grant (October 1, 2010) was 112 days. The turn-around time at the end of this reporting period (July 1 - December 31, 2011 data) was 82 days. A decrease of 30 days. This represents a 25% decrease in turn-around time.

The average number of samples analyzed per analyst decreased from 70 per analyst (at the beginning of the grant) to 67 per analyst (July 1 - December 31, 2011 data). The average samples analyzed per analyst over a two-year period runs around 55.

Goal 4) The DNA analyst hired using FY 10 funding completed 24 DNA cases. 14 DNA profiles were entered into CODIS, which resulted in 6 CODIS hits. (July 1 - December 31, 2011)

Overtime was used to partially work on an additional 20 cases. 8 DNA profiles were entered into CODIS from these cases, which resulted in 6 CODIS hits.

One scientist attended training during this grant period using DNA backlog funds.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1A) The person that was hired under the 2008 DNA backlog reduction grant (April 20 to September 30, 2009) accepted a full time permanent position as of September 30, 2009. The grant position was re-advertised and a candidate was selected. This person passed background and started in December 2009. This person finished her DNA training in June 2010 and has been doing casework since that time.

The analyst hired started working on the FY 10 DNA Backlog Reduction Grant as of March 5, 2011. The FY 2010 grant funding for salary and benefits for the analyst hired was expended on February 18, 2012.

Goal 1B) Overtime was used during this period (January 1, 2012 – June 30, 2012) to help reduce the backlog by 15 cases.

Goal 2) The backlog at the beginning of this grant (October 1, 2010) was 202 cases. The backlog at the end of this reporting period (June 30, 2012) was 318 cases. The backlog increased by 116 cases. This increase is due to counting screening cases in the total, including our electronic request for analysis data in the total number, one analyst being on leave, and the DNA section receiving more DNA cases.

Goal 3) The turn-around time at the beginning of this grant (October 1, 2010) was 112 days. The turn-around time at the end of this reporting period (January 1, 2012 – June 30, 2012) was 110 days. A decrease of 2 days.

The average number of samples analyzed per analyst decreased from 70 per analyst (at the beginning of the grant) to 63 per analyst (January 1, 2012 – June 30, 2012). The average samples analyzed per analyst over a two-year period runs around 57.

Goal 4) The DNA analyst hired using FY 10 funding completed ten (10) DNA cases. Four (4) DNA profiles were entered into CODIS, which resulted in two (2) CODIS hits. (January 1, 2012 – February 18, 2012) The FY 2010 grant funding for salary and benefits for the analyst hired was expended on February 18, 2012.

Overtime was used to partially work on an additional 15 cases. 3 DNA profiles were entered into CODIS from these cases, which resulted in 1 CODIS hit.

Five scientists attended training during this grant period using DNA backlog funds.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1A) The person that was hired under the 2008 DNA backlog reduction grant (April 20 to September 30, 2009) accepted a full time permanent position as of September 30, 2009. The grant position was re-advertised and a candidate was selected. This person passed background and started in December 2009. This person finished her DNA training in June 2010 and has been doing casework since that time.

The analyst hired started working on the FY 10 DNA Backlog Reduction Grant as of March 5, 2011. The FY 2010 grant funding for salary and benefits for the analyst hired was expended on February 18, 2012.

Goal 1B) Overtime was used during this period (July 1, 2012 – December 31, 2012) to help reduce the backlog by 1 case.

Goal 2) The backlog at the beginning of this grant (October 1, 2010) was 202 cases. The backlog at the end of this reporting period (December 31, 2012) was 478 cases. The backlog increased by 276 cases. This increase is partially due to counting screening cases in the total, including our electronic request for analysis data in the total number, two analysts being on leave, and the DNA section receiving more DNA cases.

Goal 3) The turn-around time at the beginning of this grant (October 1, 2010) was 112 days. The turn-around time at the end of this reporting period (July 1, 2012 – December 31, 2012) was 134 days. An increase of 22 days.

The average number of samples analyzed per analyst decreased from 70 per analyst (at the beginning of the grant) to 58 per analyst (July 1, 2012 – December 31, 2012). The average samples analyzed per analyst over a two-year period runs around 57. In addition to DNA samples analyzed by each analyst, each analyst worked an average of 15 screening cases per month.

Goal 4) The FY 2010 grant funding for salary and benefits for the analyst hired was expended on February 18, 2012. Therefore, no cases were completed during this reporting period.

Overtime was used to partially work on an additional 1 cases. 1 DNA profile was entered into, which resulted in 1 CODIS hit.

Three scientists attended training during this grant period using DNA backlog funds.

Supplies were also ordered using DNA backlog funds during this quarter.

FINAL REPORT:

Goal 1A) The person that was hired under the 2008 DNA backlog reduction grant (April 20 to September 30, 2009) accepted a full time permanent position as of September 30, 2009. The grant position was re-advertised and a candidate was selected. This person passed background and started in December 2009. This person finished her DNA training in June 2010 and has been doing casework since that time.

The analyst hired started working on the FY 10 DNA Backlog Reduction Grant as of March 5, 2011. The FY 2010 grant funding for salary and benefits for the analyst hired was expended on February 18, 2012.

Goal 1B) Overtime was used during the entire grant period to help reduce the backlog by 61 cases. Of the 61 cases, 21 CODIS profiles were entered which resulted in 11 CODIS hits.

Goal 2) The backlog at the beginning of this grant (October 1, 2010) was 202 cases. The backlog at the end of this reporting period (December 31, 2012) was 478 cases. The backlog increased by 276 cases. This increase is partially due to counting screening cases in the total, including our electronic request for analysis data in the total number, two analysts being on leave, and the DNA section receiving more DNA cases.

Goal 3) The turn-around time at the beginning of this grant (October 1, 2010) was 112 days. The turn-around time at the end of this reporting period (July 1, 2012 – December 31, 2012) was 134 days. An increase of 22 days.

The average samples analyzed per analyst per month over the entire grant period was 58. In addition to DNA samples analyzed by each analyst, each analyst worked an average of 15 screening cases per month.

Goal 4) The FY 2010 grant funding for salary and benefits for the analyst hired was expended on February 18, 2012.

The analyst hired for this grant completed 53 cases and entered 28 profiles into CODIS which resulted in 13 CODIS hits. This represents about 11 months of grant funding.

Scientists also attended 15 training classes during the entire grant period using DNA backlog funds and some supplies were also ordered using DNA backlog funds.

477 cases were completed by the DNA unit during the period of February 18, 2011 to March 5, 2012. During this same period the DNA analyst hired for the grant completed 53 of those cases representing about 11% of the caseload. The impact on this grant far exceeds just a numerical number. Not only did the person hired on the grant complete cases to help us reduce the backlog, the person also gained valuable DNA experience and this person will now be hired full time to replace a person who left the laboratory.

The DNA unit faces many challenges. Finding qualified DNA examiners who want to take a fixed term grant position can sometimes be difficult. The backlog continues to grow because officers collect DNA evidence now for just about every incident they respond to. The increased backlog creates a lot of stress for the DNA unit. The technology continues to change thus creating more validation work with the constant upgrade of equipment and DNA kits. The challenges are difficult but the rewards are satisfying. The major reward has been in the increase number of CODIS hits. Getting a hit on an otherwise unsolved crime is very rewarding and makes it all worthwhile.

The supplies that were bought with grant funds were plastic consumables. We do not track how many cases were specifically targeted with these consumables. Just about all the DNA cases being done in the laboratory would have used these consumables until the next batch is ordered.

FY10 Recipient Name: City of Los Angeles, California

Award Number: 2010-DN-BX-K104

Award Amount: \$1,246,257

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

1. Screen 200 cases in-house
2. DNA typing on 100 cases in-house
3. Submit 400 cases for contract laboratory analysis
4. Complete data review of 80 contract lab profiles

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

As of submission of this report, this grant has yet to receive City Council and Mayoral approval.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

<u>GOAL</u>	<u>PROGRESS</u>
Screen 200 cases in-house:	8 completed (goal 4% met)
DNA typing on 100 cases in-house:	16 completed (goal 16% met)
Submit 400 cases for contract laboratory analysis:	45 submitted (goal 11% met)
Complete data review of 80 contract lab profiles:	0 completed

Of the 19 cases completed in-house and returned to the requesting agency, 11 of them were assigned straight to DNA, which is why only eight cases were completed at the screening level. Three of the 19 cases were completed at the screening level and did not move on to DNA typing. Therefore, only 16 cases were completed at the DNA level.

All 19 cases were completed on overtime and paid for out of the 2010 Backlog Grant-personnel category.

22 cases total (and 11 cases screened) were previously reported as being completed in error, due to the fact that a few screenings were counted as completed but have since moved on to DNA. Therefore, those (three) cases have yet to be returned to the requesting agency.

Professional Development (Travel/Training and Other Categories): 32 Criminalists have attended Professional Seminars and training courses utilizing funds from the FY 2010 DNA Backlog Reduction Grant.

Equipment Category: \$262,351.88 has been used to purchase high capacity extraction robots, additional computer workstations, and related scientific equipment.

Outsourcing (Other category): 45 cases have been outsourced as of 6/30/2011. Of which, 9 cases have been returned from the outside laboratory, but zero have been completely reviewed, reported to the requesting agency and paid for.

Consultant (Other category): Validation services have been purchased for Identifiler Plus and the high capacity extraction robot.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The samples per analyst per month increased from 20.4 to an average of 21.5 samples per analyst per month for the time period 7/1/11 to 12/30/11. This value had decreased slightly during the previous rating period due to new analysts working on smaller batches of cases as they began casework. As these newer analysts have gained in their skills, they are beginning

to process larger batches of cases, resulting in an increase in the number of items per analyst per month.

During this reporting period, a total of 305 cases were completed using funding provided for overtime and outsourcing under this award. Of the 305 cases completed, 207 cases were screened and/or typed for DNA in-house using overtime funding. The breakdown of the 207 cases completed in-house is as follows: screening was completed on 131 cases, screening and DNA analyses was completed on another 51 cases and DNA analyses on the remaining 25 cases.

Of the original 305 cases completed, the remaining 98 cases were completed by outside laboratories during this reporting period. These cases utilized both funding for overtime to send out the evidence for analysis and funding for outsourcing to pay the outside vendors.

Professional Development (Travel/Training and Other Categories): 3 Criminalists have attended the California Association of Criminalistics Fall 2011 Seminar utilizing funds from the FY 2010 DNA Backlog Reduction Grant.

Equipment Category: N/A

Contract Services-Outsourcing: 217 cases have been sent to outside laboratories for analysis from 7/1/11 through 12/31/11. 98 cases were also completed by the outside laboratories during this period, some of which were sent to them during the previous reporting period. Of the 98 cases requiring a sub-contractor review of a profile prior to a CODIS upload, 20 have been completed.

Contract Services-Consultant: During this reporting period, no funds were utilized from this grant in this category. Our last progress report reported that we purchased validation services for the Identifiler Plus analysis platform, which was not accurate. It should have correctly stated that the validation services were purchased for the Y-filer analysis platform, performed by ABI, a contract vendor. The Y-filer analysis platform will allow us to obtain DNA profiles when traditional STR typing is either unsuccessful or fails to provide a complete DNA profile, precluding the need to outsource these type of cases and improving our efficiency. Validation services for the high capacity extraction robots, which were purchased during the last rating period, were also performed during this rating period by a second vendor, QIAGEN. Validation of the QIAGEN high capacity extraction robots will allow the LAPD to come one step closer to implementing our next generation of sexual assault case screening methodologies. This will allow us to screen for the presence or absence of male DNA in deciding whether to continue on with DNA testing, instead of relying solely upon traditional microscopic techniques. The new methodology will greatly increase our capacity to quickly and efficiently screen sexual assault cases, as well as eliminate some of the false negatives that can occur by the use of microscopic techniques. Both of the validations have been performed and we are awaiting final reports from the respective vendors. Once validation is completed, final methods will be created and training of analysts can occur.

Contract Services-Renovation: During this reporting period funds were utilized to purchase and install computer cabling and perform electrical work at our Piper Technical Center laboratory (PTC). This is the initial phase of our planned and approved renovation of the PTC laboratory, which will allow us to better utilize this space as a DNA laboratory, improving our capacity and ability to more efficiently perform DNA analysis.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The samples per analyst per month increased from 21.5 to an average of 24.3 samples per analyst per month for the time period 1/1/2012 to 6/30/2012. LAPD has continued to streamline its case batching process and newer analysts have gained in their skills, improving our efficiency and resulting in an increase in the number of items per analyst per month. During this reporting period, a total of 276 cases were completed using funding provided for overtime and outsourcing under this award. Of the 276 cases completed, 78 cases were screened and/or typed for DNA in-house using overtime funding. The breakdown of the 78 cases completed in-house is as follows: screening was completed on 45 cases, screening and DNA analyses was completed on another 17 cases and DNA analyses on the remaining 16 cases.

Of the original 276 cases completed, the remaining 198 cases were completed by outside laboratories during this reporting period. These cases utilized both funding for overtime to send out the evidence for analysis and funding for outsourcing to pay the outside vendors.

Professional Development (Travel/Training and Other Categories): N/A

Equipment Category: 12 computers, along with the required computer software, and software necessary for the FBI mandated CODIS 7.0 upgrade have been purchased and installed. The CODIS 7.0 upgrade has been performed and is being evaluated. Web-Development software has been purchased, received, and installed. LAPD is currently utilizing the web-development software to assist in the development of a Scientific Investigation Division (SID) webpage, which will enhance our ability to disseminate information and training issues.

Contract Services-Outsourcing: 7 cases have been sent to outside laboratories for analysis from 1/1/12 through 6/30/12. 198 cases were also completed by the outside laboratories during this period, most of which were sent to them during the previous reporting periods. 81 sub-contractor reviews were also completed during this reporting period.

Contract Services-Consultant: The validation of the method for the Y-filer analysis platform, performed by ABI, a contract vendor, was completed and the final report was received during this reporting period. The Y-filer procedure was finalized for casework and an initial group of analysts has been trained. The Y-filer analysis platform will allow us to obtain DNA profiles when traditional STR typing is either unsuccessful or fails to provide a complete DNA profile, precluding the need to outsource these type of cases and improving our efficiency. Validation services for the high capacity extraction robots were completed during this reporting period by a second vendor, QIAGEN. A final report was obtained, the casework analysis procedure was finalized, and an initial pilot group of analysts has been trained. The Validation of the QIAGEN high capacity extraction robots will allow LAPD to implement our next generation of sexual assault case screening methodologies. This will allow us to screen large batches of cases for the presence or absence of male DNA in order to decide whether to continue on with DNA testing, instead of relying solely upon traditional microscopic techniques. The new methodology will greatly increase our capacity to quickly and efficiently screen sexual assault cases, as well as eliminate some of the false negatives that can occur by the use of microscopic techniques.

Contract Services-Renovation: Renovation of existing laboratory space at both of LAPD's facilities, in order to provide additional workstations for new employees and to make

more efficient use of the current space, has been completed. This will allow LAPD to increase its casework capacity by allowing space for more analysts and to speed up the data analysis steps by providing all analysts with their own workstation and computer, alleviating wait time for available resources. This will be a significant step in improving our efficiency and casework capacity, thereby reducing the backlog of DNA cases.

Other Category: Two copies of ArmedXpert software licenses have been purchased and received. The LAPD plans to use ArmedXpert to deconvolute mixture DNA profiles, saving the DNA Analysts considerable time now spent doing mixture calculations by hand. LAPD is currently evaluating the software and web-based training on the software is scheduled to occur in the month of July 2012.

FINAL REPORT: July 1, 2012 – September 30, 2012

2010 Backlog Grant Cases:	PR #1	PR #2	PR #3	PR #4	FINAL PR	TOTAL
IN-HOUSE						
Screen	N/A	3	131	45	0	179
Screen and DNA Typed	N/A	5	51	17	0	73 *
DNA Only	N/A	11	25	16	0	52
SUBTOTAL	N/A	19	207	78	0	304
OUT SOURCED	N/A	0	98	198	55	351
TOTAL	N/A	19	305	276	55	655
Screen and Outsourced						103
REVISED TOTAL						552 **

*73 is the total number of cases that were screened and DNA typed, thus counted twice on the final results below.

**Of the 655 total cases reported, 103 cases were identified as being both Screened in-house and Outsourced. Therefore, the correct number of cases both billed in overtime and outsourcing is 552.

The final results for LAPD's updated goals (as stated in the narrative portion of the Budget Detail Worksheet, submitted as part of GAN #5, dated 9/21/12) are as follows:

<u>GOAL</u>	<u>PROGRESS</u>
Screen 200 cases in-house:	252 (179 + 73) completed (goal 126% met)
DNA typing on 87 cases in-house:	125 (73 + 52) completed (goal 144% met)
Submit 325 cases for contract laboratory analysis:	351 (248 + 103) submitted (goal 108% met)
Complete data review of 65 contract lab profiles:	101 completed (goal 155% met)

The samples per analyst per month increased from 24.3 to an average of 30.6 samples per analyst per month for the time period 7/1/2012 to 9/30/2012. LAPD has continued to streamline its case batching process and newer analysts have gained in their skills, improving our efficiency and resulting in an increase in the number of items analyzed per analyst per month. Also, during this reporting period an initial pilot project was instituted, which utilized

LAPD's newly developed male DNA screening procedure to analyze a portion of our Sexual Assault Kits. Due to the increased efficiency of this method, it also contributed to an increase in the number of samples analyzed per analyst per month.

During this reporting period, a total of 55 cases were completed and reported using funding provided for outsourcing to contract vendors under this award.

Professional Development (Travel/Training and Other Categories): N/A

Equipment Category: During the previous reporting period, LAPD reported that Web-Development software had been purchased, received, and installed. LAPD planned on utilizing the web-development software to assist in the development of a Scientific Investigation Division (SID) webpage, enhancing our ability to disseminate information and training issues. At the request of Mark Nelson, NIJ Senior Program Manager, LAPD removed this software from being billed to this grant and will pay for it out of our own funds.

Contract Services-Outsourcing: 55 cases were completed and reported by the outside contract laboratories during this period, all of which were sent to them during the previous reporting periods. LAPD had originally projected that 400 cases would be submitted to contract laboratories and billed to this grant. However, due to the increased efficiency of our analysis methods, brought about by increased use of robotic and batching methodologies developed with the assistance of monies from this grant, the LAPD was able to utilize FY10 DNA Backlog Reduction funds to screen and perform DNA analysis in-house on more cases than were originally projected. This increased number of in-house analyzed cases helped the LAPD to rely less on contract laboratories, moving the LAPD closer to becoming self-reliant in managing its backlog of cases awaiting analysis.

Contract Services-Consultant: During the previous reporting period, the validation of the method for the Y-filer analysis platform, performed by ABI, a contract vendor, was completed, the final report was received, procedure was finalized for casework, and an initial group of analysts was trained. During this reporting period, the written protocols and procedures for Y-filer analysis were finalized. LAPD SID is currently doing a statistical validation and will then develop report protocols incorporating the results of that validation. The Y-filer platform will allow us to obtain DNA profiles when traditional STR typing is either unsuccessful or fails to provide a complete DNA profile, precluding the need to outsource these type of cases and improving our efficiency. The LAPD projects that Y-filer analysis on casework will begin after the full implementation of our new male screening protocols, at the end of 2013. Validation services for the high capacity extraction robots were completed during the previous reporting period by a second vendor, QIAGEN. The analysis procedures have been written and have been submitted to the DNA Technical Lead for review. The QIAGEN high capacity extraction robots will allow LAPD to fully implement our next generation of sexual assault case screening methodologies. An initial group of five analysts has been trained and will begin using the new sexual assault screening methodology in December, 2012. This will allow us to screen large batches of cases for the presence or absence of male DNA in order to decide whether to continue on with DNA testing, instead of relying solely upon traditional microscopic techniques. The new methodology will greatly increase our capacity to quickly and efficiently screen sexual assault cases, as well as eliminate some of the false negatives that can occur by the use

of microscopic techniques. After the initial phase utilizing the new methodology for male screening of sexual assault cases has been evaluated, the second phase will incorporate the full cadre of high capacity, high throughput robotic instrumentation to analyze all types of cases. The second phase is projected to be implemented mid-year in 2013.

Contract Services-Renovation: Renovation of existing laboratory space at both of LAPD's facilities, in order to provide additional workstations for new employees and to make more efficient use of the current space, was completed during the previous reporting period. This allows LAPD to increase its casework capacity by allowing space for more analysts and to speed up the data analysis steps by providing all analysts with their own workstation and computer, alleviating wait time for available resources. This will be a significant step in improving our efficiency and casework capacity, thereby reducing the backlog of DNA cases. The final bill for the construction was received during this rating period.

Other Category: Two copies of ArmedXpert software licenses were been purchased and received during the previous rating period. The LAPD plans to use ArmedXpert to deconvolute mixture DNA profiles, saving the DNA Analysts considerable time now spent doing mixture calculations by hand. During this rating period, our laboratory has been able to successfully utilize the ArmedXpert software to check test samples for our staff's DNA profiles and to check control samples for proper results. LAPD continues to evaluate the software and is now working with the developer in order to customize the software to meet our needs.

FY10 Recipient Name: City of San Diego, California

Award Number: 2010-DN-BX-K080

Award Amount: \$283,722

Final Report:

GOALS AND OBJECTIVES OF PROJECT: Our goals and our progress on those goals for the FY10 DNA Backlog Reduction Grant are listed below.

1. Reduce the average turnaround time on DNA cases from 63 to 60 days.
2. Increase the average number of samples analyzed per analyst per month from 38 samples to 42 samples per month.
3. Reduce the backlog (cases over 30 days) from 440 to 400.
4. Complete the analysis of 190 burglary and robbery cases, 50 sex crime cases, 20 assault cases, and 20 homicides.
5. We proposed spending \$87,276 of grant funding for salary and fringe benefits to employ a DNA Criminalist.
6. We proposed adding two paid interns to our staff, each working approximately 20 hours a week. One intern would work in the Crime Scene Unit, for the express purpose of processing evidence for DNA (collecting swabs). A second intern would be utilized in the Forensic Biology Unit as a laboratory technician.
7. We proposed spending \$71,196 on equipment. \$45,877 would be spent on a Qiagility robot to provide an additional instrument platform for automated PCR setup for both the quantification and Identifiler DNA typing procedures. \$25,319 would be spent on an

Advanced EZ1 DNA extraction instrument that provides the ability to purify a greater number of evidence samples than the model of the instrument that we currently operate.

8. We proposed spending \$7,000 on storage/shelving to complete a remodel of a workspace to create two additional cubicle work spaces for new DNA analysts.
9. We proposed sending one analyst to the American Academy of Forensic Science meeting, one analyst to Promega's Symposium on Human Identification in Washington DC, two analysts to the California Association of Criminalists DNA workshop, and 13 analysts to BODE's DNA Workshop.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The performance metrics reported here were also reported for the FY09 Forensic DNA Backlog Reduction Grant in a recently submitted progress report.

The last three metrics (profiles entered, CODIS hits, and cases analyzed using this grant) are all 0, as we are finishing up the FY09 Forensic DNA Backlog Reduction grant over the next couple of months. We will be using overtime from the FY10 grant starting in April, 2011.

The goals we have laid out have not been addressed currently, as we are finishing up our goals that have been laid out in the FY09 grant. In April, 2011, we will begin to utilize this grant for our stated purposes.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

We asked for, and received, an extension on our FY09 Forensic Backlog Reduction Grant. This extension allowed us to use monies from the FY09 grant to pay for overtime. Therefore, we did not begin using overtime money from the FY10 grant until June of 2011. Therefore, the last three performance metrics (profiles entered, CODIS hits, and cases analyzed using this grant) only reflect the cases analyzed in June, 2011. The remaining performance metrics reflect the time period of this progress report. The improvements made in these metrics are a result of the combined use of the FY09 and FY10 grant money, as well as other non-grant related factors. Our progress on those goals (listed above) for the FY10 DNA Backlog Reduction Grant is listed below.

1. Our current turnaround time for these cases, in the period of January–June 2011, is 74 days.
2. Our current output of samples analyzed per analyst, per month, in the period of Jan-June 2011, is 35.
3. Our current backlog, as of June 2011, is 391.
4. Using the overtime allotted by this grant in June 2011 alone, we have completed the following number of cases: 3 Robbery and Burglary cases, 1 Sex Crimes case, 1 Assault case, and 1 Homicide case.
5. We have employed this criminalist, and he is a few weeks away from completing his training. We anticipate that he will be screening cases by mid August.
6. This intern has been identified and is going through the hiring process. She has been fully trained, and will be able to start casework within the next month. We are in the process of identifying a suitable candidate.
7. Both instruments have been purchased and are in the validation process.
8. This order has been placed, and we are awaiting final approval from our Fiscal Department.

9. We sent 13 analysts to BODE's DNA Workshop, 2 analysts to the CAC DNA Workshop, and 1 analyst to AAFS as of the end of June, 2011.

We anticipate completing the hiring of one intern, and placing a second intern into the hiring process in the next 3 months. In addition, we expect the shelving to be ordered and in place by the end of the calendar year. Our overtime funds continue to be used on a monthly basis to meet our casework goals.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

We asked for, and received, an extension on our FY09 Forensic Backlog Reduction Grant.

Therefore, we did not begin using overtime money from the FY10 grant until June of 2011. The performance metrics reflect the time period of this progress report, and are due, in part, to the use of these grant funds.

Our progress on those goals (listed above) for the FY10 DNA Backlog Reduction Grant is listed below.

1. Our current turnaround time for these cases, in the period of July-December, 2011, is 71 days.
2. Our current output of samples analyzed per analyst, per month, in the period of Jan-June 2011, is 38.
3. Our backlog, as of December 31, 2011, was 399.
4. Using the overtime allotted by this grant in July – December, 2011, we have completed the following number of specific cases: 13 Robbery and Burglary cases, 4 Sex Crimes case, 1 Assault case, and 2 Homicide cases. In addition, we completed two cases that do not fall within the categories outlined. Our total case productivity using overtime funds alone was 22.

There are several aspects to this grant that were implemented in order to increase our ability to work more cases in a shorter span of time. These include the following: use of grant funded overtime, use of grant funding to employ and train a full-time criminalist, use of grant funding to employ part time interns, and the addition of grant funded equipment designed to make the section more efficient. We have, in fact, been utilizing these various prongs to some success, as at the end of this reporting period, the average number of days between the submission of a sample to our laboratory and the delivery of test results dropped from 80 days at the beginning of the grant, to 71 days currently. In addition, the items analyzed per analyst per month have increased from 28 to 38. Although our backlog has increased, we are somewhat victims of our own success, as the case submissions keep increasing. We are becoming more efficient and timely, however, due to a combination of the economic times and our increased abilities, the property crime requests in particular are rising on a near monthly basis.

Note: We have used approximately 700 hours of overtime to date using grant funds.

5. The criminalist employed using FY10 grant funds has completed his training in sexual assault screening, and began active casework in September, 2011. To date, this criminalist has completed 26 cases. This criminalist plays a vital role in ensuring that these cases are screened in a timely manner, so that the biological evidence collected from them can be forwarded to a DNA analyst. The addition of this criminalist has assisted in decreasing our overall turnaround time, a significant goal of this grant funding.

6. We have hired one intern, and she has been actively processing evidence for DNA since August, 2011. She has processed 101 cases and 705 pieces of evidence for DNA evidence since that time, working 20 hours a week, exclusively on this project. Her work has enabled the biological evidence to flow much more quickly from our evidence processing unit into the Forensic Biology lab. This also has enabled us to decrease our turnaround time. We are in the process of hiring a second intern. She should be in place within a few weeks.
7. Our Advanced EZ1 DNA extraction instrument that provides the ability to purify a greater number of evidence samples than the model of the instrument that we currently operate, has been validated and has been in use since November 2011. This instrument expanded our capacity for extractions from 36 to 50 samples at a time. This has increased our efficiency, and has assisted in reducing our analytical time for case analysis.

We requested funding for a Qiagility high-precision automated PCR setup instrument to replace our current automated liquid handling robot, the Qiagen QiaSymphony. The change was sought because the simpler robot would have lower maintenance costs and a simpler user interface. This instrument was purchased and the validation process was started. During the validation of the new instrument, it was established that the instrument could not meet our pipetting needs due to limitations in the programming capabilities of the Qiagility robot. After discussions with representatives of the Qiagen Corporation, it was determined that the Qiagen Universal was the instrument best suited to our pipetting requirements. As such, the Qiagen Corporation has agreed to exchange the purchased Qiagility robot for a Universal instrument. This exchange is in process, and will occur using the FY2011 DNA Backlog Reduction Grant monies.

8. This order has been placed. We anticipate that the shelving will be installed within the next few weeks.
9. We sent 13 analysts to BODE's DNA Workshop, 2 analysts to the CAC DNA Workshop, and 1 analyst to AAFS as of the end of June, 2011. The forensic biology sample information management system is written as part an excel workbook. To increase knowledge of the excel application and maximize efficiency with using the sample information management system, 8 DNA analysts were selected to attend a 2-day training seminar on Excel. This training has been completed.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Our final results on those goals (listed above) for the FY10 DNA Backlog Reduction Grant are listed below.

1. Our current turnaround time for these cases, in the period of January – June, 2012, is 87 days.
2. Our current output of samples analyzed per analyst, per month, in the period of Jan-June 2012, is 32.
3. Our backlog, as of June 30, 2012, was 361.
4. Using the overtime allotted by this grant, we have completed the following number of specific cases: 36 Robbery and Burglary cases, 30 Sex Crimes cases, 5 Assault cases, and 19 Homicide cases. In addition, we completed 12 cases that do not fall within the categories outlined. Our total case productivity using overtime funds was 102 cases.

At the end of this grant period, we utilized a total of 727 hours of overtime. A total of 102 cases were worked using this overtime.

There are several aspects to this grant that were implemented in order to increase our ability to work more cases in a shorter span of time. These include the following: use of grant funded overtime, use of grant funding to employ and train a full-time criminalist, use of grant funding to employ part time interns, and the addition of grant funded equipment designed to make the section more efficient. We have, in fact, been utilizing these various prongs to some success, as at the end of this grant period, we have dropped our backlog from 418 cases to 361. This exceeded our expectations. As our case submissions remain high, the overall drop in our backlog seems to indicate the changes we have implemented and the funding provided by the grant has accomplished our primary goal of backlog reduction.

5. The criminalist employed using FY10 grant funds completed his training in sexual assault screening, and began active casework in September, 2011. The funding for this criminalist was provided by the 2010 DNA Backlog Reduction Grant from the period of June 2011 through February 2012. In that time, he screened 32 cases. This criminalist played a vital role in ensuring that these cases were completed in a timely manner, so that the biological evidence collected from them could be forwarded to a DNA analyst. The addition of this criminalist has assisted in decreasing our backlog, the primary goal of this grant.
6. During this grant period, funds were used to hire an intern responsible for processing evidence for DNA. This intern worked from August, 2011 through May, 2012. In that time, she processed 233 cases and over 1700 pieces of evidence for DNA, working 20 hours a week, exclusively on this project. Her work has enabled the biological evidence to flow much more quickly from our evidence processing unit into the Forensic Biology Lab. This also has enabled us to decrease our backlog. We hired a second intern utilizing these grant funds to supply basic support for the criminalists. This intern handled technician duties for the Biology Lab, relieving the criminalists of these tasks. The addition of this intern allowed the scientists to concentrate all of their efforts on casework.
7. Our Advanced EZ1 DNA extraction instrument that provides the ability to purify a greater number of evidence samples than the model of the instrument that we currently operate, has been validated and has been in use since November 2011. This instrument expanded our capacity for extractions from 36 to 50 samples at a time. This has increased our efficiency, and has assisted in reducing our analytical time for case analysis.
8. We requested funding for a Qiagility high-precision automated PCR setup instrument to replace our current automated liquid handling robot, the Qiagen Universal. The change was sought because the simpler robot would have lower maintenance costs and a simpler user interface. This instrument was purchased and the validation process was started. During the validation of the new instrument, it was established that the instrument could not meet our pipetting needs due to limitations in the programming capabilities of the Qiagility robot. After discussions with representatives of the Qiagen Corporation, it was determined that the Qiagen QiaSymphony was the instrument best suited to our pipetting requirements. As such, the Qiagen Corporation has agreed to exchange the purchased Qiagility robot for a QiaSymphony instrument. This exchange is in process.

9. Recently, the Hamilton Corporation introduced the Nimbus robot with air driven pipetting that replaces the more traditional liquid driven systems. A demonstration of the instrument revealed that the robot is quite capable of executing our demanding Identifiler Plus amplification protocol. Due to the ease in which Hamilton was, in a matter of hours, able to demonstrate the instrument's ability to meet our demands, we are extremely confident we will be able to successfully introduce it as a platform for amplification. The instrument was purchased and is in the process of validation. It appears to be able to successfully meet our needs, and we anticipate that it will have a positive impact on our backlog once incorporated into casework. The shelving has been purchased and installed.
 10. We sent 11 analysts to the BODE conference held locally in San Diego. In addition, we sent 8 criminalists to the California Association of Criminalists (CAC) Advanced Mixture Interpretation Workshop. We sent 2 criminalists to the American Academy of Forensic Sciences, and 2 to the CAC/Forensic Science Society 117th Semi-Annual Seminar. An additional analyst attended the CAC 2011 Fall Seminar. With this grant funding, we were able to ensure our analysts received the training they require to stay on top of current advances and issues in the field.
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FY10 Recipient Name: Sacramento County, California

Award Number: 2010-DN-BX-K071

Award Amount: \$435,152

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective One: Improve DNA Analysis Capacity

Performance Measures: a) The crime laboratory using grant funds will reduce the average number of days between assignment of a DNA case request to an analyst and the delivery of test results to the submitting agency; and b) the crime laboratory using grant funds will increase DNA case throughput.

Objective Two: Reduce the Backlog of DNA case requests

Performance Measure: a) percent reduction in the number of backlogged forensic DNA case requests, and b) report the number of CODIS hits attributable to DNA cases analyses funded under the 2010 Backlog Reduction Program.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

No funds have been expended or work begun during this reporting period (10/01/10 - 12/31/10). The laboratory is currently funding DNA analysts' work under the 2009 Backlog Reduction grant 2009-DN-BX-K065

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

No DNA analytical work was begun during this reporting period (January 1, 2011 to June 30, 2011). Note that a reevaluation of the original grant proposal submitted in 2010 was undertaken in late June 2011 to possibly offset the loss of two DNA case screeners due to their retirement and unfunding the vacancies as a result of the county's and District Attorney's FY 2011-12 budgetary crisis. A GAN was drafted to extend the end of the 2010 DNA Backlog Reduction grant from March 2012 to September 2012. Training funds

were expended to send one (1) DNA analyst to the 2011 spring conference of the California Association of Criminalists that included DNA topic workshops. The laboratory is currently funding two (2) DNA analysts' work under the 2009 Backlog Reduction grant 2009-DN-BX-K065.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Criminalists funded under the 2009 DNA Backlog Reduction grant completed the grant on September 30, 2011, and transitioned over to the 2010 Backlog Reduction grant October 1, 2011.

Performance metrics and activities reported for this reporting period only cover October 1, 2011 through December 31, 2011. Performance metrics for July 1, 2011 through September 30, 2011 was reported in the final grant report under the 2009 Backlog Reduction grant (2009-DN-BX-K065).

Two GANs were submitted on or about July 6, 2011 for the following reasons:

- Extend the project period for this grant through 09/30/2012 in order to provide on full year of funding for two DNA analysts (GAN 003 approved 07/12/2011)
- A budget modification was requested to add one additional criminalist due to savings realized through the elimination of the validation service project as found in the original 2010 grant proposal. The funded position will be assigned to screening potential DNA cases for the funded DNA analysts (GAN 002 approved 07/12/2011)

The criminalist approved in GAN 002 began training in case screening techniques on or about August 1, 2011. Criminalist 1 completed his serology training and successfully completed his Serology Competency test on December 2, 2011. He was assigned potential DNA cases to screen on December 2, 2011. By December 31, 2011, Criminalist 1 completed 3 cases with an average case turnaround time of 18 calendar days. Four cases are in progress and/or laboratory reports have been drafted pending technical and administrative review and release in January 2012.

The consultant hired to conduct reviews of DNA laboratory reports prior to release completed administrative reviews on 91 DNA laboratory reports during this reporting period. The consultant's time commitment during this reporting period was 56 hours and compensation was \$3,150.00. The average turnaround time for the consultant to administratively review and release the DNA laboratory reports was 8 calendar days from date of receipt of the report through corrective actions (if needed) and release.

The two funded DNA analysts transferred from the 2009 Backlog Reduction grant to the 2010 grant program. Some casework carried forward from the 2009 grant to be completed during this reporting period. These cases were not included in the tabulation below, as the cases were reported under the 2009 grant.

Criminalist A was assigned 8 backlogged cases with the following results:

- 3 DNA cases completed and reports released (2 homicides, 1 sexual assault)
- 1 body fluid identification case screened and found negative for DNA
- Average case turnaround time for completed DNA cases = 48 calendar days
- 2 DNA cases completed and pending release in January 2012
- 2 DNA cases in progress
- 0 profiles uploaded to CODIS
- 0 CODIS hits

- 1 court testimony on a previously worked homicide case
- 8 technical case reviews were conducted by this analyst

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011, *continued*

Criminalist B was assigned 16 backlogged DNA cases with the following results:

- 10 DNA cases completed and reports released (3 homicides, 7 sexual assaults)
- Average case turnaround time for completed DNA cases = 60 calendar days
- 6 DNA cases completed and pending release in January 2012
- 9 profiles uploaded to CODIS
- 2 CODIS hits (1 hit to suspect, 1 case-to-case hit)
- 2 court testimonies on previously worked sexual assault cases

We are reporting the following metrics for completed casework:

Grant funded DNA criminalists:

- 13 cases completed
 - 9 profiles uploaded to CODIS
 - 2 CODIS hits

Grant funded screener with subsequent DNA typing by non-grant funded analysts:

- 3 cases completed; not yet assigned for DNA typing

Total reporting metrics:

- 16 cases completed
 - 9 profiles uploaded to CODIS
 - 2 CODIS hits to offenders

It must be noted that both DNA criminalists, especially criminalist A, typically process the most challenging cases in the laboratory's DNA unit. These cases are often "cold case" unsolved homicides which involve extracting DNA from old, degraded samples. These are not high-throughput cases, but require special attention to the case details and extraction and typing of the forensic samples. It often takes several attempts to obtain a useable DNA profile from these cases.

Note: Performance metrics for the number of cases screened is counted in the reporting period during which screening was completed. If these cases were subsequently analyzed by a grant-funded DNA analyst, these cases were not included in the number of cases reported for that DNA analyst. This to avoid double counting of these cases. However, the number of profiles uploaded and CODIS hits obtained by DNA analysts is reported during the period in which the DNA analyses were completed.

Two DNA analysts attended the 22nd International Symposium on Human Identification (Promega Conference) in National Harbor, Maryland October 3-6, 2011. The conference is recognized as one of the best conferences to focus exclusively on topics of interest to those involved in the field of forensic DNA. Workshops included: familial searches, forensic DNA phenotyping, troubleshooting common laboratory problems and interpretation of DNA mixtures. 100 scientific posters were presented by members of the forensic community.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The two consultants hired to conduct case file review and screening of targeted backlogged DNA cases were transferred to the 2011 award on January 1, 2012.

One GAN was submitted on or about April 4, 2012 for the following reasons:

- A budget modification was requested to purchase one Qiagen EZ1 Advanced XL automated DNA extraction instrument due to savings realized through travel, personnel, and training costs. The purchase order for this instrument was placed in April 2012 with an expected delivery in July 2012.

DNA Criminalist A completed 16 new and 3 previously screened backlogged DNA cases with the following results:

- *This criminalist processes the most challenging cases and samples in the laboratory's DNA unit, many of which are from old "cold case" unsolved homicides*
- *This frequently involves multiple attempts to obtain a useable DNA profile*
- Includes 4 homicides, 10 sexual assaults
- Average case turnaround time for completed DNA cases = 44 calendar days
- 3 DNA cases in progress
- 5 profiles uploaded to CODIS
- 4 CODIS hits to suspects
- 39 technical case reviews were conducted by this analyst
- 3 court testimonies on previous cases

DNA Criminalist B completed 37 new and 8 previously screened backlogged DNA cases with the following results:

- Includes 22 homicides, 19 sexual assaults
- Average case turnaround time for completed DNA cases = 54 calendar days
- 11 DNA cases in progress
- 16 profiles uploaded to CODIS
- 8 CODIS hits to suspects
- 29 technical case reviews were conducted by this analyst

Screening Criminalist completed the screening of 45 backlogged DNA cases with the following results:

- 20 cases screened positive and the DNA work has been completed and included in the metrics below
- 12 cases screened positive are waiting for DNA analysis as of 6/30/12.
- 13 cases screened negative for biological material – case closed
- Average case turnaround time for completed cases = 39 days

DNA analysis was performed during this reporting period on 20 of these cases and on 2 cases screened in the previous reporting periods (July 1, 2011 – Dec 31, 2011) and the results are included in the metrics below.

Performance metrics for the number of profiles uploaded and CODIS hits obtained is reported only in the grant reporting period during which DNA analysis was performed.

DNA typing was subsequently performed during this reporting period by non-grant funded DNA analysts with the following results:

- 10 previously screened DNA cases were completed by non-grant funded analysts:
 - 6 profiles uploaded to CODIS
 - 4 CODIS hits to offenders

DNA typing was subsequently performed during this reporting period by grant funded DNA analysts with the following results:

- *The number of profiles uploaded and CODIS hits are included in “Criminalist A” and “Criminalist B” statistics within this progress report.*
- *12 previously screened DNA cases were completed by grant-funded DNA analysts:*
 - *8 profiles uploaded to CODIS*
 - *2 new CODIS hits to offenders*

We are reporting the following metrics for completed casework:

Grant funded DNA criminalists:

- 53 cases completed
 - 21 profiles uploaded to CODIS
 - 12 hits to offenders

Grant funded screener with subsequent DNA typing by non-grant funded analysts:

- 45 cases completed
 - 10 cases underwent DNA typing by non-grant funded DNA analysts:
 - 6 profiles uploaded to CODIS
 - 4 CODIS hits to offenders

Total reporting metrics:

- 98 cases completed
 - 27 profiles uploaded to CODIS
 - 16 CODIS hits to offenders

It must be noted that both DNA criminalists, especially criminalist A, typically process the most challenging cases in the laboratory’s DNA unit. These cases are often “cold case” unsolved homicides which involve extracting DNA from old, degraded samples. These are not high-throughput cases, but require special attention to the case details and extraction and typing of the forensic samples. It often takes several attempts to obtain a useable DNA profile from these cases.

Note: Performance metrics for the number of cases screened is counted in the reporting period during which screening was completed. If these cases were subsequently analyzed by a grant-funded DNA analyst, these cases were not included in the number of cases reported for that DNA analyst. This to avoid double counting of these cases. However, the number of profiles uploaded and CODIS hits obtained by DNA analysts is reported during the period in which the DNA analyses were completed.

No 2010 award funds were used for training or travel during this reporting period.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

The backlog of DNA requests has increased over the last six months. This has been primarily due to an increase in the backlog of property crime cases. Our laboratory has one criminalist dedicated to property crimes, and this person was on leave from August 1, 2012 – Jan 7, 2013.

One GAN was submitted on or about August 7, 2012 to extend the project period from Sept 30, 2012 to Dec 31, 2012 to allow us to expend remaining funds.

One Qiagen EZ1 Advanced XL automated DNA extraction instrument was purchased and delivered to the lab in July and is undergoing a performance check prior to use in casework. The consultant hired to conduct reviews of DNA laboratory reports prior to release completed administrative reviews on 17 DNA laboratory reports during this reporting period. The consultant’s time commitment during this reporting period was 7.5 hours and

compensation was \$428. The remainder of his time for this reporting period was billed to the 2011 award and will be reflected in that progress report. The average turnaround time for the consultant to administratively review and release the DNA laboratory reports was 13 calendar days from date of receipt of the report through corrective actions (if needed) and release.

Two full-time DNA criminalists and one full-time screening criminalist were funded under this award for the period of July 1 – Sept 30, 2012. *The number of previously screened cases is only counted once in the performance metrics, and is counted within the grant reporting period in which it was initially screened by a grant-funded screener.*

DNA Criminalist A completed 6 new and 2 previously screened backlogged DNA cases with the following results:

- This criminalist processes the most challenging cases and samples in the laboratory's DNA unit, many of which are from old "cold case" unsolved homicides.*
- This frequently involves multiple attempts to obtain a useable DNA profile*
- Includes 2 homicides, 6 sexual assaults
- Average case turnaround time for completed DNA cases = 164 calendar days
 - This was skewed by two cases that took several months to locate reference samples*
- 4 DNA cases in progress on Sept 30, 2012
- No new profiles were obtained that were suitable for upload to CODIS
- 1 CODIS hit to a suspect from previous work
- 18 technical case reviews were conducted by this analyst

DNA Criminalist B completed 16 new and 8 previously screened backlogged DNA cases with the following results:

- Includes 13 homicides, 10 sexual assaults
- Average case turnaround time for completed DNA cases = 28 calendar days
- 8 DNA cases in progress on Sept 30, 2012
- 8 profiles uploaded to CODIS
- 4 CODIS hits to suspects
- 12 technical case reviews were conducted by this analyst

Screening Criminalist completed the screening of 19 backlogged DNA cases with the following results:

- 2 cases screened positive for biological material, are identified for DNA analysis, but remain unassigned
- 12 cases screened positive and the DNA work has been completed and included in the metrics below
- 5 cases screened negative for biological material – case closed
- Average case turnaround time for completed cases = 28 days
- no new screening cases in progress as of Dec 31, 2012

DNA analysis was performed during this reporting period on 16 of these cases and on 12 cases screened in the previous reporting periods (July 1, 2011 – June 30, 2012) and the results are included in the metrics below.

Performance metrics for the number of profiles uploaded and CODIS hits obtained is reported only in the grant reporting period during which DNA analysis was performed.

DNA typing was subsequently performed during this reporting period by non-grant funded DNA analysts with the following results:

- 11 previously screened DNA cases were completed by non-grant funded analysts:
 - 10 profiles uploaded to CODIS
 - 8 CODIS hits to offenders

DNA typing was subsequently performed during this reporting period by grant funded DNA analysts with the following results:

- *The number of profiles uploaded and CODIS hits are included in “Criminalist A” and “Criminalist B” statistics within this progress report for work performed July 1 – Sept 31, 2012 or within the FY 2011 progress report (2011-DN-BX-K436) for work performed Oct 1 – Dec 31, 2012.*
- *11 previously screened DNA cases were completed by grant-funded DNA analysts:*
 - *8 profiles uploaded to CODIS*
 - *3 new CODIS hits to offenders*

We are reporting the following metrics for completed casework:

Grant funded DNA criminalists:

- 22 cases completed
 - 8 profiles uploaded to CODIS
 - 5 hits to offenders

Grant funded screener with subsequent DNA typing by non-grant funded analysts:

- 19 cases completed
 - 11 cases underwent DNA typing by non-grant funded DNA analysts:
 - 10 profiles uploaded to CODIS
 - 8 CODIS hits to offenders

Total reporting metrics:

- 41 cases completed
 - 18 profiles uploaded to CODIS
 - 13 CODIS hits to offenders

It must be noted that both DNA criminalists, especially criminalist A, typically process the most challenging cases in the laboratory’s DNA unit. These cases are often “cold case” unsolved homicides which involve extracting DNA from old, degraded samples. These are not high-throughput cases, but require special attention to the case details and extraction and typing of the forensic samples. It often takes several attempts to obtain a useable DNA profile from these cases.

Note: Performance metrics for the number of cases screened is counted in the reporting period during which screening was completed. If these cases were subsequently analyzed by a grant-funded DNA analyst, these cases were not included in the number of cases reported for that DNA analyst. This to avoid double counting of these cases. However, the number of profiles uploaded and CODIS hits obtained by DNA analysts is reported during the period in which the DNA analyses were completed.

No 2010 award funds were used for training or travel during this reporting period.

FINAL REPORT:

Objective One: Improve DNA Analysis Capacity

Performance Measures: a) The crime laboratory using grant funds will reduce the average number of days between assignment of a DNA case request to an analyst and the delivery of test results to the submitting agency; and b) the crime laboratory using grant funds will increase DNA case throughput.

Objective Two: Reduce the Backlog of DNA case requests

Performance Measure: a) percent reduction in the number of backlogged forensic DNA case requests, and b) report the number of CODIS hits attributable to DNA cases analyses funded under the 2010 Backlog Reduction Program.

OBJECTIVE 1: Improve DNA analysis capacity – reduce the turnaround time and increase DNA case throughput

Report period October 1, 2010 – December 31, 2010

No funds have been expended or work begun during this reporting period (10/01/10 - 12/31/10). The laboratory was funding DNA analysts' work under the 2009 Backlog Reduction grant 2009-DN-BX-K065.

The turnaround time decreased from 54 days at the start of the award period to 31 days at the end of the reporting period.

Reporting period: January 1, 2011 – June 30, 2011

No funds were expended for DNA analytical work during this reporting period (January 1, 2011 to June 30, 2011). The laboratory was funding two (2) DNA analysts' work under the 2009 Backlog Reduction grant.

The turnaround time increased from 31 to 38 days during this award period.

Report period: July 1, 2011 – December 31, 2011

Criminalists funded under the 2009 DNA Backlog Reduction grant completed the grant on September 30, 2011, and transitioned over to the 2010 Backlog Reduction grant October 1, 2011. Performance metrics and activities reported for this reporting period only cover October 1, 2011 through December 31, 2011.

A budget modification was requested to add one additional criminalist due to savings realized through the elimination of the validation service project as found in the original 2010 grant proposal. The funded position will be assigned to screening potential DNA cases for the funded DNA analysts (GAN 002 approved 07/12/2011). The criminalist approved in GAN 002 began training in case screening techniques on or about August 1, 2011. This individual completed the casework screening (serology) training and approved by the laboratory to perform the screening of DNA casework on December 2, 2011. By December 31, 2011, Criminalist 1 completed 3 cases with an average case turnaround time of 18 calendar days. During this reporting period, the two DNA analysts completed 13 cases between 10/1/11 – 12/31/11. The full time screening criminalist completed three new cases between 12/1/11 and 12/31/11.

The consultant hired to conduct reviews of DNA laboratory reports completed 91 administrative report reviews in 56 hours.

The turnaround time increased from 38 to 43 days during this period.

Report period: January 1, 2012 – June 30, 2012

Two full time DNA analysts and one full-time screening analyst were funded from this award during this reporting period. The screening analyst completed the serological

screening of 45 backlogged DNA cases. Not counting cases previously screened, the two grant funded DNA analysts completed 53 new backlogged DNA cases. A total of 98 backlogged cases were analyzed by the three grant funded analysts during this period. The consultant hired to conduct reviews of DNA laboratory reports was transferred to the 2011 DNA Backlog Reduction grant award (2011-DN-BX-K436) during this period and the remainder of the project.

During this period, the turnaround time remained the same at 43 days.

Report period: July 1, 2012 – December 31, 2012

Two full time DNA analysts and one full-time screening analyst were funded for three months from this award during this reporting period. On October 1, 2012, both full time DNA analysts were transferred to the 2011 award. Additionally, on October 1, 2012, the grant funded screening criminalist transferred to a vacant position in the toxicology section of the laboratory after spending one year in the Biology/DNA unit of the laboratory.

During the three month period of July 1 – Sept 30, 2012, the screening analyst completed the serological screening of 19 backlogged DNA cases. Not counting cases previously screened, the two grant funded DNA analysts completed 22 new backlogged DNA cases. A total of 41 backlogged cases were analyzed during this three month period by the three grant funded analysts.

The turnaround time decreased slightly from 43 to 42 days.

FINAL – Objective One

Three full time analysts were funded for 12 months each between October 1, 2011 and Sept 30, 2012. This included one full time screening analyst and two full time DNA analysts. Cumulatively, the three analysts processed 155 backlogged DNA cases. In the absence of the DNA backlog reduction program, these cases would not have been processed in a timely manner and would have contributed substantially to the backlog. Turnaround time was 54 days at the start of the award period. At the end of the award period, it had decreased to 42 days.

OBJECTIVE 2: Reduce the backlog of DNA cases – reduce the number of backlogged DNA cases and report the number of CODIS uploads and hits

Report period October 1, 2010 – December 31, 2010

No funds have been expended or work begun during this reporting period (10/01/10 - 12/31/10).

The laboratory was funding DNA analysts' work under the 2009 Backlog Reduction grant 2009-DN-BX-K065.

Reporting period: January 1, 2011 – June 30, 2011

No funds were expended for DNA analytical work during this reporting period (January 1, 2011 to June 30, 2011). The laboratory was funding two (2) DNA analysts' work under the 2009 Backlog Reduction grant.

Report period: July 1, 2011 – December 31, 2011

During this reporting period, the two DNA analysts uploaded nine profiles to CODIS and obtained two hits between 10/1/11 – 12/31/11. No DNA testing was conducted on the three cases that were screened by the grant funded screener during this time.

The number of backlogged DNA cases increased from 18 to 33 during this award period.

Report period: January 1, 2012 – June 30, 2012

Two full time DNA analysts uploaded 21 DNA profiles to CODIS and obtained 12 hits. DNA analysis by non-grant funded DNA analysts of cases screened by the grant funded screener resulted in six new profiles being uploaded to CODIS and four new CODIS hits. In total, 27 profiles were uploaded and 16 CODIS hits resulted from cases worked by grant-funded analysts.

The number of backlogged DNA cases increased from 33 to 60 during this award period.

Report period: July 1, 2012 – December 31, 2012

During the three month period of July 1 – Sept 30, 2012, the two full time DNA analysts uploaded eight new DNA profiles to CODIS and obtained five new hits. DNA analysis by non-grant funded DNA analysts of cases screened by the grant funded screener resulted in 10 new profiles being uploaded to CODIS and eight new CODIS hits. In total, 18 profiles were uploaded and 13 new CODIS hits resulted from cases worked by grant-funded analysts.

The number of backlogged DNA cases increased from 60 to 81 during this award period.

This was primarily due to an increase in property crime cases. Our laboratory has one externally funded analyst dedicated to DNA analysis of property crimes. This individual was on leave from the laboratory from August 1, 2012 to January 7, 2013.

FINAL – Objective two

Three full time analysts were funded for 12 months each between October 1, 2011 and Sept 30, 2012. This included one full time screening analyst and two full time DNA analysts. DNA analysis by the grant-funded DNA analysts, and subsequent DNA analysis of previously screened cases by non-grant funded DNA analysts, resulted in 53 new profiles being uploaded to CODIS and 31 new hits. In the absence of the DNA backlog reduction program, these uploaded profiles and CODIS hits would not have occurred in a timely manner and would have contributed substantially to the backlog. During the award period, the number of backlogged cases increased from 61 to 84. Much of this increase occurred during the final reporting period, due to the temporary absence of the DNA analyst who processes the high volume property crime cases. Considering that 155 cases were processed by analysts funded through this grant, the increase in the backlog would have much higher if the DNA backlog reduction program did not exist in its current form.

Other crime lab impacts and improvements

Report period: January 1, 2011 – June 30, 2011

Training funds were expended to send one (1) DNA analyst to the 2011 spring conference of the California Association of Criminalists that included DNA topic workshops.

Report period: July 1, 2011 – December 31, 2011

Two DNA analysts attended the 22nd International Symposium on Human Identification (Promega Conference) in National Harbor, Maryland October 3-6, 2011. The conference is recognized as one of the best conferences to focus exclusively on topics of interest to those involved in the field of forensic DNA. Workshops included: familial searches, forensic DNA phenotyping, troubleshooting common laboratory problems and interpretation of DNA mixtures. 100 scientific posters were presented by members of the forensic community.

Report period: January 1, 2012 – June 30, 2012

Grant funds were used to purchase an EZ1xl automated DNA extraction instrument for use in forensic casework. Our DNA laboratory initially had two of these instruments, and this award allowed us to purchase a third one. A non-grant funded analyst had completed an in-house validation study to use these instruments for sexual assault evidence (differential DNA extractions) and low-level contact DNA samples in June 2012. We are now using these instruments for these types of forensic samples to help improve case throughput.

SUMMARY

Funding from this award was used to fund two DNA analysts and a case screener for 12 months. During this time, 155 cases were screened and forwarded for DNA analysis if appropriate. This resulted in 53 new forensic DNA profiles being uploaded to CODIS, and resulted in 31 new CODIS hits to offenders or other cases. While turnaround time decreased of the award period, our DNA case backlog still increased.

It must be noted that both DNA criminalists, especially criminalist A, typically process the most challenging cases in the laboratory's DNA unit. These cases are often "cold case" unsolved homicides which involve extracting DNA from old, degraded samples. These are not high-throughput cases, but require special attention to the case details and extraction and typing of the forensic samples. It often takes several attempts to obtain a useable DNA profile from these cases.

Travel to training or conferences was fully funded for three DNA analysts, which assisted in the laboratory in meeting the continuing education requirement in the FBI's Quality Assurance Standards for DNA testing laboratories. In addition, grant funds allowed the laboratory to purchase an additional automated DNA extra

FY10 Recipient Name: County of San Bernardino, California

Award Number: 2010-DN-BX-K116

Award Amount: \$492,591

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To increase capacity of the DNA lab by purchase of automated equipment.

Goal 2: To increase capacity of the DNA lab by purchase of supplies.

Goal 3: To increase capacity of the DNA lab by funding training courses and seminars for DNA analysts.

Goal 4: To decrease the backlogged cases by funding overtime for DNA analysts.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 – In this reporting period no purchases were made.

Goal 2 – In this reporting period no purchases of supplies were made.

Goal 3 – In this reporting period no training courses and seminars were funded.

Goal 4 – In this reporting period no overtime funds were used.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Goal 1 – In this reporting period no purchases were made. Note: Our lab is completing equipment purchases on the 2008 grant and we are also purchasing equipment on the 2009 grant.
- Goal 2 – In this reporting period no purchases of supplies were made. Note: Our lab is currently purchasing supplies on the 2008 and will soon begin to purchase supplies on the 2009 grant.
- Goal 3 – In this reporting period no training courses and seminars were funded. Note: Our lab is currently using training funds on the 2009 grant.
- Goal 4 – In this reporting period, the grant funded approximately 120 hours of overtime. 23 DNA backlog DNA cases were completed with the support of this overtime.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Goal 1 - In this reporting period no purchases were made. Our lab completed the equipment purchases on the 2008 grant and we are now working towards completing the purchasing of equipment on the 2009 grant while researching and collecting quotes for the equipment on the 2010 grant.
- Goal 2 - In this reporting period no purchases of supplies were made. Note: In early November, supplies were purchased on the 2009 grant.
- Goal 3 - In this reporting period, one analyst attended AB GeneMapper ID-X training in October. At least two analysts are scheduled to attend BODE Advanced DNA Technical Workshop and Seminar. We continue to search for new DNA training opportunities that focus on our current and future needs.
- Goal 4 - In this reporting period, 35 DNA backlog cases were completed with the support of overtime.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

- Goal 1 - In this reporting period no purchases were made. In June 2012, our lab completed the equipment purchases on the 2009 grant. With the new fiscal year, we are now working towards completing the purchasing of equipment on this grant. A Gan will be submitted upon completion of our labs progress reports regarding the equipment.
- Goal 2 - In this reporting period no purchases of supplies were made. Note: In early November, supplies were purchased on the 2009 grant and utilized in case work. With the new fiscal year, we have begun the ordering of supplies on this 2010 grant.
- Goal 3 - In this reporting period, one analyst attended Bode West Advanced DNA Technical Workshop and Seminar 2012, one analyst attended Bode East West Advanced DNA Technical Workshops and Seminar 2012, and one analyst attended the California Association of Criminalists Spring Workshop and Meeting. We have 4 analysts interested in attending the Promega Human Symposium and Workshops in October 2012. We continue to search for new DNA training opportunities that focus on our current and future needs.
- Goal 4 - In this reporting period, 7 DNA backlog cases were completed with the support of the remaining overtime funds. A total of 65 backlog cases were successfully completed with the assistance of the 2010 overtime funds from this grant.

GOAL 4: COMPLETED - To decrease the backlogged cases by funding overtime for DNA analysts.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1 - In the beginning of this reporting period our GAN was approved that included changes in equipment purchases. We have ordered and received several DNA reference books. We have ordered several Dry baths and their associated heat blocks to replace non-functioning ones in the lab. We also ordered the 48-port switch and rack to place in our new server room which will centrally locate our DNA related servers (GM, CODIS, Temperature Monitoring system) in one secure, temperature controlled room within the lab. We have been collecting quotes for the improvement of 12 overcrowded DNA work desks. We hope to have at least 3 vendor quotes submitted for comparison by end of February to select and place the order. We should be ordering the evidence tracking system in March. This purchase was delayed due to an unexpected increase in cost which may require County approval to go forward. We have not purchased the interpretation software (ex. ArmedXpert, True Allele) due to recent discussions of a “free” version being made available sometime this year. We have not purchased the Hamilton Microlab after determining this may not be the best instrument to purchase based on the release of the Hamilton Star AutoLys instrument. We have a team reviewing this instrument and comparing its capabilities to other extraction instrumentation to determine if this may be a better choice to purchase. We plan to make a decision in mid-February regarding both the interpretation software and the Hamilton instrumentation. Once we determine how best to use these funds by what will improve our current case output, be the most beneficial to streamlining our lab process and/or interpretation, with least impact to future lab budgets, we will submit a GAN if appropriate.

Goal 2 - In this reporting period we ordered majority of the 2010 grant funded supplies and received them in late October – early November. These supplies were QC checked and approved for casework. During this reporting period, we completed and released reports for 22 DNA cases using these supplies. Several more cases are in the analysis and review process and these numbers will be determined and presented in the next reporting period.

Goal 3 - In this reporting period, 4 analysts attended the Promega Human Symposium and Workshops in October 2012. We are currently registering for the BODE conference and workshops and we are looking into the California Association of Criminalists Spring Seminar as an option for remaining training funds. We will use all 2010 grant training funds within the next rating period (Jan-June 2013).

Goal 4 - As of June 30, 2012 (last reporting period) - To decrease the backlogged cases by funding overtime for DNA analysts. COMPLETED

Note: In early 2012, we assembled a team specifically tasked with working on DNA case management in an effort to address our current DNA case backlog and improve our DNA case submission process. While this process is not yet complete, we have been able to remove several hundreds of cases from our backlog. Cases were removed from our backlog based on many reasons all stemming back to lack of communication with our agencies and DA’s office. In July 2012 we had

approximately 1796 backlog cases. At the end of December 2012, we estimated our backlog was down to 1154 cases. Effective December 1, 2012, we instituted a new DNA case request process that has decreased new DNA case submission requests by half. We will meet again in March to review the final progress of this task and determine the final tally of closed cases that will be removed from our backlog.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1 - In the beginning of this reporting period a GAN was approved that included changes in equipment purchases. In an effort to decrease hands on time, increase the number of samples analyzed at one time and meet upcoming changes in CODIS requirements and DNA kits, we determined that our labs backlog and future casework would benefit with the purchase of two AB 3500 instruments. We did purchase both instruments. We have submitted paperwork to order the Qiagen Qiacube to assist with differential extractions, reduce hands on time and decrease opportunities for sample switches.

Non-equipment items were also purchased during this rating period. We purchased an evidence tracking system to assist with long term storage and tracking of extracts. We purchased office furniture in an effort to improve several overcrowded DNA work desks and provide two additional work desks for 2 new DNA analysts. We also purchased 12 new chairs for individuals within the DNA unit. Due to the age and differences in our current furniture, we were not able to replace the tabletops of three analysts as planned. We purchased one license of DNA interpretation software so that we may improve and possibly standardize difficult sample interpretations among DNA analysts. We purchased 3 additional laptops to be used in the laboratory to assist with note-taking and monitoring of instrumentation runs. We replaced three old freezers/refrigerators that were leaking and not reliably holding temperature. We purchased a 48-port switch and a server rack to allow us to move the CODIS server out of our hot trailer and into a new air-conditioned server room that is currently being built within the laboratory. We purchased a second CODIS client computer in our office area to replace the CODIS server computer being relocated out of the trailer. We also purchased the upgrades to our current GMIDX software so that we may use the AB 3500's instrumentation. We purchased an Ultrasonicator to improve our sampling process of fingernails. We ordered a new rotor for our current centrifuge so that we may spin plates instead of individual tubes. We purchased an Adobe license for our Technical Leads computer so that he may assist with grant applications in the future. We have submitted paperwork to order a new Vacufuge to reduce our bottleneck with this equipment.

Goal 2 - During this reporting period, we completed and released reports for 130 DNA cases using these supplies. Additional cases are in the review process and these numbers will be determined and presented in the next reporting period.

Goal 3 - In this reporting period, 2 analysts attended the 10th Annual Bode West Conference in March 2013 and 4 analysts attended the Spring CAC General Session and Workshops in May 2013. A total of fourteen individuals within the DNA unit were able to attend a variety of DNA training with the assistance of the 2010 grant training funds. These funds allowed our analysts to meet their continuing education requirements. This training would not have been possible without these funds. All training on this grant has been successfully attended. COMPLETED

Goal 4 - As of June 30, 2012 - To decrease the backlogged cases by funding overtime for DNA analysts. COMPLETED

Note: In early 2012, we assembled a team specifically tasked with working on DNA case management in an effort to address our current DNA case backlog and improve our DNA case submission process. We have administratively removed several hundreds of cases from our backlog. In July 2012 we had approximately 1796 backlog cases. At the end of December 2012, we estimated our backlog was down to 1154 cases. Effective December 1, 2012, we instituted a new DNA case request process that has decreased new DNA case submission requests by half and has improved the case submissions being received. On July 1, 2013 our backlog of DNA cases was determined to be 297 DNA cases which include property crimes, sexual assaults and major crimes.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1 - To increase capacity of the DNA lab by purchase of automated equipment.

During this rating period, we purchased a new Vacufuge to reduce our bottleneck with this type of equipment. In an effort to decrease hands on time, increase the number of samples analyzed at one time and decrease opportunities for sample switches, we purchased a Qiagen Qiacube to assist with differential extractions.

Goal COMPLETED

Goal 2 - To increase capacity of the DNA lab by purchase of supplies.

During this reporting period, we completed and released reports for 8 DNA cases using the remainder of these supplies. Goal COMPLETED

Goal 3 – To increase capacity of the DNA lab by funding training courses and seminars for DNA analysts.

As of June 30, 2013 - Goal COMPLETED

Goal 4 - To decrease the backlogged cases by funding overtime for DNA analysts.

As of June 30, 2012 - Goal COMPLETED

FINAL REPORT:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To increase capacity of the DNA lab by purchase of automated equipment.

It is unfortunate that plans for a laboratory expansion have been delayed and that we continue to be hampered with limited space in both our DNA laboratory and office areas. Fortunately for our DNA unit, the 2010 DNA grant funds have allowed us to advance our DNA equipment which included purchasing two AB 3500 Genetic Analyzers, a Qiagen Qiacube to assist with differentials, repair or replacement of aging lab equipment, reconfiguring and replacement of some of our ancient office furniture allowing additional desk space for current and new unit members, a second CODIS client, and additional laptop computers in our lab area. We are currently working on the validation process for both the Genetic Analyzers and the Qiacube so that we may begin using them in casework. We also purchased a program to assist with tracking of our DNA extracts. This will be extremely useful as we continue to grow and increase our DNA output. All of these purchases will in the near future or have already improved our case documentation, sample handling and decreased analysts hands on time. Our analysts are better able to focus on case work and decreasing our DNA backlog with these purchases, especially now that we have improved their desk space and provided

additional desk space for two new unit members. Many if not all of these purchases would not have been possible without the assistance of grant funding. We already see a dramatic increase in the number of completed DNA cases and the number of CODIS entries and hits each year. We expect this trend to continue as we bring all of the purchased DNA instrumentation online with case work.

Goal 2: To increase capacity of the DNA lab by purchase of supplies. 160 backlogged DNA cases were completed with the assistance of grant funded supplies. Every year the cost of supplies increase but our laboratory supply budget usually does not. These additional funds allowed us to work on a greater number of backlogged cases and allowed us to focus on decreasing our backlog numbers. In combination with Goal 4, we completed 225 backlogged DNA cases using both grant funded supplies and overtime. From these cases, we made 146 CODIS entries and received 63 CODIS hits that provided investigative leads.

Goal 3: To increase capacity of the DNA lab by funding training courses and seminars for DNA analysts.

Individuals within the DNA unit were able to attend fourteen DNA training/meetings with the assistance of the 2010 DNA grant training funds. These funds allowed our analysts to meet their continuing education requirements. Training is extremely important for forensic scientists. Techniques, kits, supplies and instrumentation are always evolving and improving. By attending training opportunities that include general meeting sessions, we are able view and hear about what is new in our field, listen to presentations on studies and validations and discuss with others in the field regarding what has or hasn't worked in their laboratories. We make a good effort to learn from others experiences and tend to get valuable information and great contacts for future assistance. Training that is essential to our laboratory would not have been possible without these funds.

Goal 4: To decrease the backlogged cases by funding overtime for DNA analysts.

65 backlogged DNA cases were completed with the assistance of overtime funds for DNA analysts. For the last several years laboratory overtime is rarely approved and reserved for DNA analysts working on rush DNA cases that are considered public safety concerns. We are extremely fortunate to have access to the DNA grant overtime funds that allowed us to complete 65 backlog cases above our regular case load. As mentioned in Goal 2, we completed a total of 225 backlogged DNA cases using both grant funded supplies and overtime. From these cases, we made 146 CODIS entries and received 63 CODIS hits that provided investigative leads.

FY10 Recipient Name: California Department of Justice

Award Number: 2010-DN-BX-K050

Award Amount: \$1,937,262

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 – Increase DNA throughput through the purchase of automated equipment

Goal 2 – Reduce the DNA casework backlog by hiring and training (10) limited-term Criminalists

Goal 3 – Reduce the DNA casework backlog through the use of grant-funded overtime

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 – Increase DNA throughput through the purchase of automated equipment

Progress October – December 2010 – Many of the equipment slated to be purchased with the 2010 grant funds have been transferred to the budget of the 2009 backlog reduction grant. These items include the (2) Artel Multichannel Verification Systems (MVS) and the 3500 Genetic Analyzer, as well as (2) copies of Genemapper ID-X software. A Grant Adjustment Notice will be submitted once the revision of the Bureau's needs for equipment has been completed.

Goal 2 – Reduce the DNA casework backlog by hiring and training (10) limited-term Criminalists

Progress October – December 2010 – (6) limited-term Criminalists have been hired under the 2009 DNA backlog reduction grant. The Bureau anticipates completing the hiring of the additional (4) limited-term positions and retaining these (10) positions for the duration of the 2010 backlog reduction grant. Most of these Criminalists will have completed their DNA training using 2009 grant funds, and will be productive in contributing towards the reduction of the casework backlog and turnaround times for the duration of the 2010 grant.

Goal 3 – Reduce the DNA casework backlog through the use of grant-funded overtime

Progress October – December 2010 - No DNA casework using overtime grant funds was done during this period. The 2009 DNA Backlog Reduction Grant is active and all overtime is done using the 2009 grant funds. We anticipate starting overtime with 2010 DNA grant funds in October, 2011.

Other Activities

The installation of the purified water system in the BFS Redding Laboratory is in progress. The water lines are scheduled to be installed.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 – Increase DNA throughput through the purchase of automated equipment

Progress January – June 2011: A GAN is in process with an updated list of equipment and should be submitted to NIJ in August. It is anticipated that the purchase orders will be completed from September to December, 2011.

Goal 2 – Reduce the DNA casework backlog by hiring and training (10) limited-term Criminalists

Progress January – June 2011: The 2009 DNA Backlog Reduction Grant is still active and limited-term Criminalists are still being funded by this grant. The BFS was permitted to fill several permanent positions and (5) of the limited-term Criminalists were moved into permanent positions. There may be a reduction in the number of limited-term Criminalists funded by the 2010 DNA grant.

Goal 3 – Reduce the DNA casework backlog through the use of grant-funded overtime

Progress January – June 2011: No DNA casework using overtime 2010 grant funds was completed during this period. The 2009 DNA Backlog Reduction Grant will end on September 30, 2011, and the BFS will begin using 2010 overtime funds to continue reducing the DNA backlog.

Other Activities

Progress January – June 2011: Nothing to report.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The metrics for this grant period do not match previous reporting periods. This is because the Bureau of Forensic Services made a critical change in the work metrics reporting to better reflect the effect of grant funding on the DNA/Biology backlog. In every progress/final report from now on, we will be reporting DNA cases plus Biology cases, rather than just DNA cases. Biology and DNA Metrics combined, Table 1

Description	Metrics	Explanation
TAT in Days, Beginning 10/1/2010	130	Average of DNA requests and Biology Requests
TAT in Days, End 12/31/2011	123	Average of DNA requests and Biology Requests
Samples/Analyst/Month, Beginning 10/1/2010	17	Average of DNA requests
Samples/Analyst/Month, End 12/31/2011	19	Average of DNA requests
Backlog, Beginning 10/1/2010	1568	1216 DNA + 795 Bio – 443 = 1568 443 is the average monthly capacity (Jul-Sep) = 30 day capacity
Backlog, End 12/31/2011	820	491 + 781 – 452 = 820

Goal 1 – Increase DNA throughput through the purchase of automated equipment

The majority of large equipment purchases are at various stages of the process. The status of each equipment purchase order is listed in the table below. Certain items are on hold. One GAN to extend the grant period and a second GAN to request changes in equipment will be submitted in February 2012.

Equipment Purchase Status, Table 2

Item	# of items	Budgeted	Actual	Status	Comment
AB 3500 Genetic Analyzer	2	240,000		On hold	GAN to be prepared for one additional instrument
Acrylic Covers for Tecan Robotic Workstation	8	64,000	46,026	In process	11-649.0-003
Roche 454 GS Junior Genetic Sequencer	1	124,000		PO in preparation	
Microplate Rotor for Eppendorf Vacufuge	7	8,890		PO in preparation	
Vacufuge	7	68,600		PO in preparation	
Biomatrix Mini-BioStore	5	135,000		PO in preparation	
Biomatrix Large Dry Store Cabinet	10	16,500			
Biomatrix Supplies		41,700			
Multi-channel pipettors	3	1,800		No progress	
96 well magnetic ring stand	1	606.84		No progress	

Item	# of items	Budgeted	Actual	Status	Comment
Vacuum Pump	1	32,260		No progress	
LabQake Shaker/Rotator	1	400		No progress	
IKA Turrax	1	1,000		No progress	
Autoclave	1	10,000		PO in preparation	
Autoclave Upgrades	2		19,498	In process	11-649.0-001
RFID System	1	190,000		On hold	GAN pending to remove item
9700 Thermal Cyclers	5	40,000		No progress	
Water Purification Unit	2	16,000		PO in preparation	Needs GAN for a third device
Supply Items for Sequencer Validation	Misc.			No progress	

Goal 2 – Reduce the DNA Casework backlog by hiring and training 4 limited term criminalists
Per GAN from 9/20/2011, the number of limited term criminalists was reduced from ten to four. Two of the four limited term positions are currently filled.

Goal 3 – Reduce the DNA Casework backlog through the use of grant-funded overtime

The Bureau of Forensic Services used 840 hours of overtime out of 6000 budgeted hours. 258 Biology/DNA cases were completed on overtime.

Training and Travel

25 DNA analysts attended the DNA workshop during the California Association of Criminalist Meeting on October 25, 2011.

New NIJ approval forms for four DNA Mixture Training classes are in preparation.

Other Activities

The waterlines for the purified water system in the Redding Laboratory were installed. The purchase order for the water filtration device is in preparation.

Selection of CODIS Hits

August 2011

- Redding. Burglary of an auto repair business. Perpetrator left multi-tool at scene. DNA profile developed from handle of multi-tool.

October 2011

- Central Valley. Burglary. Cigarette butt left at the scene. An unknown male profile was developed from the cigarette butt. On 9/1, the profile was uploaded. On 9/6, we were notified of a hit.
- Central Valley. Burglary. Cigarette butt left at the scene. An unknown male profile was developed from the cigarette butt. On 9/12, the profile was uploaded. On 9/18, we were notified of a hit.
- Central Valley. Burglary. Blood on a window sill. An unknown male profile was developed from the blood. On 8/31, the profile was uploaded. On 9/6, we were notified of a hit. On 10/25, the subjects reference was compared to the unknown profile and found to match.
- Santa Barbara. Eight different burglaries. Profiles were obtained from blood was left at the scene. One was uploaded on Oct. 5 and hit Oct 9, three were uploaded on Oct 12 and hit on Oct 16 and one was uploaded April 13, 2011 and hit Oct 23. Three more were uploaded Oct 26, two hit Oct 30 and the third hit Oct 31.

- Santa Barbara. Burglary where a shirt was left at the scene. The wear's profile was obtained and uploaded on Oct 26. It hit on Oct 30.
- Santa Barbara. Sexual assault where a male profile was determined from the vaginal swab. The profile was uploaded on Oct 26 and hit Oct 31.

November 2011

- Central Valley. Burglary, blood left on a cabinet at the scene. Unknown male profile developed from the bloodstain. Profile uploaded on 9/2. On 9/6 profile hit.
- Central Valley. Robbery, latex gloves and sweatshirt left at the scene. Major male profile developed from both items. Both profiles were uploaded on 10/28. On 10/30, the male profiles from the glove hit.
- Central Valley. Homicide. A major male profile was developed from the grips of a revolver. On 10/13, the profile was uploaded. On 10/16, the profile hit.
- Central Valley. Burglary, baseball hat and hood left at the scene. Major male profiles were developed from both items. On 10/27, both profiles were uploaded. On 10/30, the profile from the hood hit.
- Richmond via Freedom. Swabs of apparent blood collected from a vehicle that had been broken into were processed and a male DNA profile was obtained. The male DNA profile was uploaded to CODIS on November 9. A CODIS hit against the male DNA profile was obtained on November 13.
- Santa Barbara. Six different burglaries. Profiles were obtained from blood was left at the scene. One was uploaded on May 5, 2011 and hit Nov 27, one was uploaded on June 27, 2011 and hit on Nov 6, and one was uploaded Nov 2 and hit Nov 6 and three more were uploaded Nov 9 and hit Nov 13.
- Santa Barbara. Two Burglaries where food was eaten at one scene and a ski mask was left at the other scene. The profiles were uploaded on Nov 9 and hit Nov 13.
- Santa Barbara. Burglary where a water bottle was left at the scene. The profile was uploaded on Nov 17 and hit Nov 27.

December 2011

- Central Valley. Robbery. Latex gloves and a sweatshirt left at the scene. Major male profiles were developed from both items. Both profiles loaded to CODIS on 10/28. On 10/30, the male profile from the sweatshirt hit.
- Central Valley. Burglary. Baseball hat and hood left at the scene. Major male profiles were developed from both items. On 10/27, both profiles were uploaded. On 10/30, the profile from the baseball hat hit. On 11/13, the profiles from the hood hit to a Pleasanton Police Department case.
- Redding. Sexual assault by big rig trucker. Profile uploaded on 12/20. Offender hit and name received on 1/23.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1 – Increase DNA throughput through the purchase of automated equipment

Most of the large equipment items were delivered to the laboratories and are in various stages of installation. The details are listed in Table 1.

A positive effect of increased automation on throughput capacity will become measurable as soon as these instruments will be in use. It should be noted that the 20% improvement in turn-around time (see metrics) is likely, in part, due to the effect from earlier equipment purchases funded by previous backlog grants.

Equipment Purchase Status, Table 1

Item	# of items	Budgeted \$	Actual \$	Status	Comment
AB 3500 Genetic Analyzer	4	703,500		Arrived	In process of installation by the vendor in Richmond, Sacramento, Central Valley DNA Programs
Acrylic Covers for Tecan Robotic Workstation	8	46,026		Arrived	Installed in DNA Programs bureauwide.
Roche 454 GS Junior Genetic Sequencer	1	124,000		Arrived	Installation scheduled, Richmond.
Microplate Rotor for Eppendorf Vacufuge	7	8,890	7,775	Arrived	In DNA Programs bureauwide.
Vacufuge	7	68,600	43,135	Arrived	In DNA Programs bureauwide.
Biomatrix Mini-BioStore	5	92,496		PO approved, vendor contacted for delivery	
Biomatrix Large Dry Store Cabinet	10	20,000			
Biomatrix Supplies		20,000			
Multi-Channel Pipettors	3	1,800		CANCELED	GAN to be submitted in July.
96 Well Magnetic Ring Stand	1	607	1,262	Arrived	Richmond
Fluorometer	1	19,778	17,279	Arrived	Richmond
LabQake Shaker/Rotator	1	400		CANCELED	GAN to be submitted in July
Centrifuge for Sequencing Slides	1	14,747	6,422	Arrived	Richmond
Autoclave	1	9,640	9,640	Arrived	Sacramento
Autoclave Upgrades	2	19,498		In process	
9700 Thermal Cyclers	5	56,538		Arrived	Richmond. Are replacements for bureauwide DNA Programs
Water Purification Units	2	21,231	20,196	Installed	Redding and Sacramento
True Allele Hardware and Software	1	180,260		En route	Richmond
Training by Vendor		40,000			
Supply Items for Sequencer Validation	Misc.	2,700	2,256	Arrived	

Goal 2 – Reduce the DNA Casework backlog by hiring and training 4 limited term criminalists

All available funds for limited-term Criminalists were spent. DNA training is still in progress for two individuals (continuing on the 2011 grant). The 20% improvement in case turn around time since the beginning of this grant period is in part due to the additional casework capacity created by limited term positions (some funded by previous Backlog grants).

Goal 3 – Reduce the DNA Casework backlog through the use of grant-funded overtime

All available funds for overtime were spent by April 2012, which is reflected in the Performance Metrics being lower than the metrics from the previous 6-months period. After April, grant overtime was credited to the 2011 grant (see Progress Report FY 2011).

The >30 day backlog increased in comparison to the previous 6-months period. A higher number of case submissions in combination with travel/training activities are the likely cause for this increase. However, the numbers still show a significant backlog reduction (~30%) in comparison to the backlog at the beginning of the grant period.

Training and Travel

Four DNA Mixture Training classes were completed in March and April 2012. 78 DNA analysts attended and 75 achieved a passing grade. This training was an essential milestone in the transition to computer modeling and probabilistic approaches to DNA mixture interpretation according to recent SWGDAM guidelines.

Other Activities

The waterlines for the purified water system in the Redding Laboratory were installed but were paid from laboratory funds rather than grant funds (compare to Progress Report 3).

Selection of CODIS Hits

January 2012

- Redding. Robbery assault. Profile loaded on 12/20, offender hit 1/23.
- Santa Barbara. Water bottle left at scene. Uploaded on 1/17 and hit 1/23
- Santa Barbara. Blood left at scene. Uploaded on 6/15 and hit 1/23
- Santa Barbara. Minor profile from straw left at scene. Uploaded on 1/17 and hit 1/23

February 2012

- Central Valley. Armed Robbery/Assault. An unknown male profile obtained from a piece of cloth that was used as a mask during the robbery. The profile was uploaded to CODIS on January 11, 2012. On January 16, 2012 the profile hit.
- Central Valley. Burglary. An unknown male profile was obtained from a glove left at the scene and a second unknown male profile was obtained from the band of a head lamp. These profiles were uploaded to CODIS on January 31, 2012. On February 6, 2012, the profile from the glove hit.
- Central Valley. Robbery. A bloodstained bandana and a glass smoking pipe were dropped by a suspect while fleeing the scene of a robbery. An unknown major male profile was obtained from the bloodstain on the bandana. A major male profile that matched the suspect reference was obtained from the glass smoking pipe. An unknown male minor profile was also obtained from the glass smoking pipe. On January 24, 2012, both the major profile from the bloodstain on the bandana and the minor profile from the smoking pipe were uploaded to CODIS. On January 30, 2012, hits were made to both profiles.
- Fresno. Burglary. DNA profile from cigarette butt left at scene of burglary. Typed and entered in CODIS in January and hit in February.

March 2012

- Central Valley. Copper Theft. An unknown male profile was obtained from a glove left at the scene and a second unknown male profile was obtained from the band of a head lamp. These profiles were uploaded to CODIS on January 31, 2012. On February 6, 2012, the profile from the head lamp hit.
- Central Valley. Sexual Assault. Amylase was detected on a breast swab and semen was detected on the victim's panties. An unknown male profile was developed from the breast swab, and a different male profile was developed from the sperm fraction on the vaginal swab. The profiles were uploaded on February 9, 2012. On February 13, 2012, the profile from the breast swab hit.
- Central Valley. Sexual Assault. Seminal fluid was detected on an arm swab, and semen was detected on the victim's black jeans. The same unknown male profile was detected on both the arm swab and the sperm fraction of the jeans. On February 21, 2012, the unknown male profile was uploaded. On February 27, 2012, the profile hit.

- Central Valley. Arson of Sheriff Patrol Vehicle. An unknown male profile was developed from the trace swab of a battery connector from the scene. The profile was uploaded on February 9, 2012. On February 13, 2012, the profile hit.

April 2012

- Central Valley. Sexual Assault. An unknown male profile was developed from a semen stain on a sheet and from a cigarette butt left at the scene. On 3/22/12 the profile was loaded to CODIS. On 3/25, a hit was received.
- Central Valley. Homicide. Minor profile was developed from the victim's fingernail. On 3/2/12 the profile was uploaded to CODIS. On 3/12 a hit was received.
- Central Valley (2 hits). Homicide. Firearms deal gone bad. Blood and trace collected from 2 hats left at the scene. Two unknown male profiles were developed from the trace DNA from the hats. On 3/14/12 the profiles were uploaded to CODIS. On 3/19 hits were received to both profiles.
- Central Valley. Sexual Assault. Semen was detected on the victim's vaginal swabs. An unknown male profile was developed. On 2/27/12 the profile was uploaded to CODIS. On 3/12 a hit was received.
- Central Valley. Robbery. Trace collected from a gun and bottle. Two unknown male profiles were developed. On 2/27/12 the profile as uploaded to CODIS. On 4/1 a hit was received for the profile from the gun.
- Richmond. Sexual Assault. A 14 year-old juvenile met the suspect at a Big Lots store. Victim initially gave consent to sexual intercourse, but then told the suspect to stop. However, the suspect did not stop. Foreign DNA profile detected on vaginal swab. On 4/16/2012, the profile was uploaded to CODIS. On 4/18, a hit was received.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1 – Increase DNA throughput through the purchase of automated equipment

All items of large equipment items were delivered to the laboratories and are in various stages of validation. The details are listed in Table 1.

In October 2012, the California Department of Justice Bureau of Forensic Services took possession of a Cybergenetics TrueAllele Casework system. Validation tests are being performed concurrent to the training (see Validation and Training).

A positive effect of increased automation on throughput capacity will become measurable when these instruments will be in use. It should be noted that the 25% improvement in turn-around time (see metrics) is likely, in part, due to the effect from earlier equipment purchases funded by previous backlog grants.

Equipment Purchase Status, Table 1

Item	# of items	Status
AB 3500 Genetic Analyzer	5	Validation and Technical Protocol development was completed. Site validations are pending.
Acrylic Covers for Tecan Robotic Workstation	8	In use.
Roche 454 GS Junior Genetic Sequencer	1	Validation in progress.
Microplate Rotor for Eppendorf Vacufuge	7	In use.
Vacufuge	7	In use.
Biomatrix	5	Validation in progress.

Item	# of items	Status
Mini-BioStore		Additional storage chemicals in the process of delivery.
Biomatrica Large Dry Store Cabinet	10	
Biomatrica Supplies		
Multi-Channel Pipettors	3	CANCELED
96 Well Magnetic Ring Stand	1	In use.
Fluorometer	1	In use.
LabQake Shaker/Rotator	1	CANCELED
Centrifuge for Sequencing Slides	1	In use.
Autoclave	1	In use.
Autoclave Upgrades	2	Installed and in use.
9700 Thermal Cyclers	5	In use.
Water Purification Units	2	In use.
True Allele Hardware and Software - Training by Vendor	1	Training and validation in progress.
Supply Items for Sequencer Validation	Misc.	In use.

Goal 2 – Reduce the DNA Casework backlog by hiring and training 4 limited term criminalists
All available funds for limited-term Criminalists were spent (see report #4). DNA training has continued for two individuals (see 2011 grant). One of these individuals is about two months short of completing the DNA casework training, the other individual is estimated to complete the training by mid 2013. The 25% improvement in case turn around time since the beginning of this grant period is in part due to the additional casework capacity created by limited term positions (some funded by previous Backlog grants).

Goal 3 – Reduce the DNA Casework backlog through the use of grant-funded overtime
All available funds for overtime were spent by April 2012 (overtime is being worked under the 2011 grant).

The >30 day backlog increased in comparison to the previous 6-months period. A 5% reduction in work hours (furlough day) and the implementation of a different paradigm for DNA mixture interpretations has contributed to the backlog increase. However, the backlog is still 20% lower than at the beginning of the grant period.

Training and Travel

As reported in Report #4, four DNA Mixture Training classes were completed in March and April 2012. Following this training and during this grant period, the Bureau of Forensic Services implemented a new protocol for the interpretation of DNA evidence resulting from the biological mixtures (e.g., a stain consisting of comingled blood from multiple individuals.) The new protocol emphasizes a more quantitative, mathematical approach to mixture interpretation. The implementation of the new DNA Mixture Interpretation software, called Mixmaster, was very involved and is part of the reason for the backlog increase during this period.

In October 2012, the California Department of Justice Bureau of Forensic Services took possession of a Cybergenetics TrueAllele Casework system. On November 1, 2012, four BFS criminalists successfully completed the three-day Basic course (Science and Software) taught remotely by Cybergenetics' staff. Preparation for this course occurred from September through October, involving a program of self-paced prereading and/or viewing of six book chapters, twelve on-line lectures, four journal publications, three Cybergenetics newsletters, and a tutorial manual. Beginning in the first half of November, the same four criminalists began Cybergenetics' modular, self-paced Operator course.

Other Activities

Nothing to report.

Selection of CODIS Hits

None to report.

FINAL REPORT

The goals set at the beginning of the grant

- Increase DNA throughput through the purchase of automated equipment
- Reduce the DNA Casework backlog by hiring and training limited term criminalists
- Reduce the DNA Casework backlog through the use of grant-funded overtime were met.

The >30 day backlog decreased by 16% when compared to the beginning of the grant. This was achieved even with a 5% reduction of regular work hours through a furlough day. The 24% improvement in case turn around time is likely in part due to the additional casework capacity created by limited term positions from previous backlog grants and overtime from this grant. The 11% increase in the average number of samples analyzed/analyst/month is likely due to added efficiencies through automation, probably the effect of earlier capacity building grants. The impact of additional technology funded by this grant will become apparent once the technology is implemented.

Below is the final status of the most significant grant-funded items:

3500 Genetic Analyzers

Five Genetic Analyzers were distributed to the following locations:

- Richmond Casework (2)
- Richmond Missing Persons DNA Program (1)
- Sacramento Regional Laboratory (1)
- Central Valley Regional Laboratory (1)

The 3500 validation for casework was completed and included the *Identifiler* and *IdentifilerPlus* systems. Training is in progress at the Richmond laboratory. The regional laboratories will begin with their training in June 2013.

Acrylic Covers for Tecan Robotic Work Stations

Eight Covers were distributed to the following locations:

- Richmond Casework (2)
- Sacramento Regional Laboratory (1)
- Central Valley Regional Laboratory (1)
- Fresno Regional Laboratory (1)
- Riverside Regional Laboratory (1)
- Santa Barbara Regional Laboratory (1)
- Redding Regional Laboratory (1)

The acrylic shields serve as dust covers for eight *Tecan* robots purchased from earlier NIJ backlog grants. The robots are used for multiple casework purposes, such as organic extraction, qPCR, normalization of DNA quantities and PCR amplification and validation.

Roche 454 GS Junior, Centrifuge for Sequencing Slides, Fluorometer, Laboratory Supplies

The 454 DNA sequencer resides in Richmond. It is currently being validated for the sequencing of the mitochondrial HVI and II regions and will replace the time-consuming analysis of family samples by the traditional Sanger sequencing method. A secondary use will be the mt-DNA analysis of hair shafts. The 454 will replace the *Profiblot* equipment, which had been purchased from a previous NIJ backlog grant. While the 454 will significantly speed up the mt-DNA

analysis of family reference samples, it will make an even greater impact when multiple hair cases can be sequenced in one run, thereby saving much hands-on time and making the process very cost-effective.

Biomatrix DNASTable System

This product preserves the DNA by dehydration, allowing the long-term storage of DNA at room temperature instead of freezing temperature. Validation studies are in process and include the comparison of *DNASTable*-treated samples with DNA stored at -20°C for sensitivity, reproducibility and contamination. DNA extracted with phenol, *Prepfil*, and alkaline lysis is being tested. To avoid a validation period of several years, long periods of storage time are simulated by replacing the time with other environmental stresses. DNA samples are stored with *DNASTable* at room temperature and at ~56°C to study accelerated aging (three months at ~56°C = ~ 2.5 years at room temperature).

At the 3 month time interval, quantities of DNA stored at -20° C and with *DNASTable* at room temperature were similar. DNA quantities of samples stored with *DNASTable* at ~56°C were lower than when stored at -20°C. The last analysis of the validation will be after six months, at -56°C, representing five years of storage.

Mixmaster Courses (Training)

The *Mixmaster* software was developed in-house for the deconvolution of two-person mixtures. As reported in Report #4, four DNA Mixture Training classes were completed in March and April 2012. The use of *Mixmaster* required a new protocol for the interpretation of DNA evidence resulting from biological mixtures. The new protocol emphasizes a more quantitative, mathematical approach to mixture interpretation. *Mixmaster* has been on line for casework since January 1, 2013. Since a probabilistic interpretation of mixtures is still new to our analysts, they are permitted to do the interpretation with *Mixmaster* and the traditional method, which may slow down the process until all analysts are comfortable with the new approach.

True Allele DNA Mixture Deconvolution System, TrueAllele Training

In October 2012, the Jan Bashinski Laboratory took possession of a *Cybergenetics TrueAllele* Casework system. The laboratory's goal is to provide mixture interpretation assistance to our casework scientists, especially for mixtures more complex than two contributors.

Four criminalists successfully completed the three-day Basic course (Science and Software) taught remotely by *Cybergenetics'* staff. Beginning in the first half of November, the same four criminalists began *Cybergenetics'* modular, self-paced Operator course. To date, the criminalists are one-half of the way through the training modules. Validation tests are being performed concurrent to the training.

Initial studies focused understanding of how *TrueAllele* applies statistics and population genetics theory in the development of a reporting statistic, as well as data exploration and documentation. Accuracy and precision studies are ongoing, awaiting additional information from *Cybergenetics*. The second phase of the validation involves two-person *IdentifilerPlus* mixtures, including samples analyzed on both the *3130xl* and *3500*. Two studies have been completed to date, with additional studies to be completed by the caseworkers as part of their training. Degradation and inhibition studies have, to date, focused on the capability of *TrueAllele* to interpret samples with "differential" degradation. This two-person study, approximately half complete, will capture the same information as other two-person mixtures. Inhibition studies will involve sets of pre-existing two-person mixtures that were amplified in the presence of different types and quantities of inhibitors. Multiple three-person mixtures of intact DNA have been prepared and amplified using *IdentifilerPlus*, including samples analyzed on both the

3130xl and 3500. These studies will capture the same information as the two-person mixtures. Depending upon the results of the degradation studies, additional three-person mixtures may need to be created to further test the performance of *TrueAllele* under these conditions. The rate-limiting step in the validation project has been the processor time. *TrueAllele* interpretations of complex data can take two to four days for each set of eight mixtures. The validation may therefore take until the early part of 2014.

Note: We believe that the significant improvement in case turn-around time during this grant period (23%, see metrics) is primarily the effect of earlier equipment purchases funded by previous backlog grants. The effect of new technologies and increased automation funded by this grant will become measurable only when fully applied to the casework process.

Salaries for Limited Term Criminalists

All available funds for limited-term Criminalists were spent (see report #4). DNA training has continued for two individuals. One of these individuals has completed her training in April 2013. The impact on casework capacity will not be noticed until she is performing at full speed, expected to be mid 2013. The second individual has, for various reasons, fallen behind the expected training timeline but we hope that he will still finish his training before July 2013. Even if these limited term individuals have not yet made a contribution to productivity, the limited term hires will have a positive impact on casework capacity in the near future.

Overtime for Casework

All available funds for overtime were spent by April 2012. 426 backlogged cases were completed on overtime, resulting in a 16% case backlog reduction (from 1568 requests to 1322 requests). The case backlog reduction is smaller than expected, due to a loss of ~5% regular work time from one furlough day/month for state budget reasons.

Noteworthy CODIS Hits

The following hits are an excerpt from the list of previously reported hits:

- October 2011 - Santa Barbara. Eight different burglaries. Profiles were obtained from blood was left at the scene.
- November 2011 - Central Valley. Homicide. A major male profile was developed from the grips of a revolver.
- November 2011 - Santa Barbara. Six different burglaries. Profiles were obtained from blood was left at the scene.
- November 2011 - Santa Barbara. Two Burglaries where food was eaten at one scene and a ski mask was left at the other scene
- December 2011 - Redding. Sexual assault by big rig trucker.
- February 2012 - Central Valley. Armed Robbery/Assault. An unknown male profile obtained from a piece of cloth that was used as a mask during the robbery.
- February 2012 - Central Valley. Robbery. A bloodstained bandana and a glass smoking pipe were dropped by a suspect while fleeing the scene of a robbery. An unknown major male profile was obtained from the bloodstain on the bandana. A major male profile that matched the suspect reference was obtained from the glass smoking pipe. An unknown male minor profile was also obtained from the glass smoking pipe. Hits were made to both profiles.
- March 2012 - Central Valley. Arson of Sheriff Patrol Vehicle. An unknown male profile was developed from the trace swab of a battery connector from the scene.
- April 2012 - Central Valley. Homicide. Minor profile was developed from the victim's fingernail

- April 2012 - Central Valley (2 hits). Homicide. Firearms deal gone bad. Blood and trace collected from 2 hats left at the scene. Two unknown male profiles were developed from the trace DNA from the hats. Hits were received to both profiles.
 - April 2012 - Richmond. Sexual Assault. A 14 year-old juvenile met the suspect at a Big Lots store. Foreign DNA profile detected on vaginal swab.
-

FY10 Recipient Name: Los Angeles County Sheriff's Department, California

Award Number: 2010-DN-BX-K100

Award Amount: \$1,561,300

Final Report: GOALS AND OBJECTIVES OF PROJECT:

1. Goal 1: To be able to work all new requests for analysis without the need for long term outsourcing.
 - a. Objective A: Outsource 780 cases
2. Goal 2: Analyze cases using overtime and supplies
 - a. Objective A: Analyze 490 cases in-house
3. Goal 3: Purchase equipment items
 - a. Objective A: Purchase (2) ABI 3500 genetic analyzers with backup power supplies
 - b. Objective B: Purchase (4) ABI thermocyclers
 - c. Objective C: Purchase (2) centrifuges
 - d. Objective D: Purchase (6) printers

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The following goals and objectives were set for this award:

1. Goal 1: To be able to work all new requests for analysis without the need for long term outsourcing.
2. Progress (Oct - Dec): This grants primary purpose was to assist the lab in achieving our goal of clearing the last of our sexual assault kit backlog. We are well under way with 439 kits outsourced as of December and another 220 on schedule to ship by the end of January. No reports have been received as of this report. The equipment purchases are just starting so no impact will be realized so early in the award period.
3. Discussion: With the January and February shipments of sexual assault kits to contract labs we will achieve the ability to immediately assign all evidence coming into the lab beginning in March. It is anticipated that there will no longer be a need to outsource routine (non-cold case) evidence in the future. Due to this grant award and functional changes made within the lab we are better positioned to have evidence assigned and turned around more quickly.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: 691 Kits were analyzed and reports returned from the contract labs. All kits have been outsourced and there are no future plans to outsource anymore evidence as a backlog solution. Currently all kits are being worked in-house. The goal to work all cases without outsourcing has been met, though 89 less cases were outsourced using contract lab funding due to higher than expected costs. For the CODIS metrics, 48 uploads, 20 felon hits, and 1 case-to-case hit can be attributed to the outsourced cases to date.

Goal 2: 95 cases have been analyzed in-house representing approximately 20% of the goal. Supplies purchased with grant funds were only received and made ready for use on April 30, 2011. The 95 cases were completed in just the last two months. For the CODIS metrics, 14 uploads, 8 felon hits, and 2 case-to-case hit can be attributed to the in-house cases.

Goal 3: Objectives B, C, and D have been completed. Those items have been received and are in use. Objective A is not complete and this purchase will not occur until the fall.

Discussion: Funds from the contract category have been expended and all reports for cases outsourced using this grant's funds have been received. At present, cases with positive results are making their way through the CODIS review process. Numerous cases are in work or assigned for in-house analysis using grant supplies and/or overtime. Turnaround time has dropped approximately 10% from the previous reporting period. It is anticipated it will continue to drop since most of the cases with older request dates will be completed. This will eliminate outliers from the turnaround time average.

Property crime training was completed at the end of June for all of the outside agencies in Los Angeles County. If the agencies collect and submit as expected we anticipate close to 200 additional DNA cases per month. We believe we are prepared for this influx and that it should have no negative effect on turnaround time other than to lower it because of the simplistic (no screening typically required) nature of these cases.

Note: The number of cases completed in-house has been revised from 95 to 44 cases completed. The 44 in-house cases plus the 691 outsourced cases totals 735 cases reported in the performance metrics table. The total upload value was revised to 45 with 17 of the CODIS uploads from outsourced cases and 28 uploads from in-house cases. The CODIS hits have been revised to 21 with 9 from outsourced cases and 12 from in-house casework. The reason for this correction is that an error was discovered in our database that attributed too many in-house cases to the grant. The error has been corrected and the values are reflected in the performance metrics table.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Completed

Goal 2: 817 cases have been analyzed in-house representing approximately 167% of the goal. Supplies purchased with grant funds and were made ready for use on April 30, 2011. The 817 cases were completed over the six month reporting period. This is in addition to the 95 cases completed in the previous reporting period. For the CODIS metrics, 312 uploads, 123 felon hits, and 8 case-to-case hits can be attributed to the in-house cases. Goal exceeded.

Goal 3: Objectives B, C, and D have been completed. Those items have been received and are in use. Objective A is not complete, but the order is nearing completion and the genetic analyzers will be delivered to the lab before the grant closeout.

Discussion

Less than \$21,000 remains in the grant and this amount will be exhausted prior to grant closeout. The labs turnaround time has decreased 35 days from the previous reporting period. We have greatly exceeded the 490 in-house cases with a total of 912. 20% of the completed cases were property crimes. The percentage of property crime cases is expected to increase now that all outside agencies and our own crime scene personnel have received training in the identification and collection of property crime evidence

based on the labs criteria. The analysis of these property crime samples could not have been accomplished without funding for overtime and supplies.

The backlog was calculated for this reporting period differently. Last period, only cases that were pending unassigned were counted. During this reporting period cases that were assigned or actively in work for 30 days or more were also included. This results in a much higher backlog number. Of the 632 cases in backlog, 114 were pending assignment on 12/31/11. 264 were assigned to analysts, though many were in work. 254 cases were active; however, in our current case management system this means that the case was in the technical review process and was nearing completion.

The number of samples analyzed per analyst per month has increased by 7 samples (or 35%) from the previous reporting period. The volume of property crime samples likely accounts for a significant portion of this increase. Robotics and equipment upgrades purchased with previous grant funds, coupled with grant purchased supplies has fueled this level of growth. A secondary factor has been internal process and workflow changes initiated by management.

Note: The number of cases completed in-house has been revised from 817 to 608 cases completed. The total upload value was revised to 311 with 38 of the CODIS uploads from outsourced cases and 273 uploads from in-house cases. The CODIS hits have been revised to 142 with 27 from outsourced cases and 115 from in-house casework. There were 10 case-to-case hits with 3 from outsourced cases and 7 from in-house cases. The reason for this correction is that an error was discovered in our database that attributed too many in-house cases to the grant. The error has been corrected and the values are reflected in the performance metrics table.

FINAL REPORT:

Goal 1: Corrected values for the outsourced case CODIS metrics are 86 CODIS uploads, 51 Felon hits, 0 case-to-case hits. 31 of the CODIS uploads and 12 of the offender hits are from the final period. Goal completed.

Goal 2: 953 cases have been analyzed in-house representing approximately 194% of the goal. 301 of those completed cases were during the final period. Supplies were purchased with grant funds and made ready for use on April 30, 2011. The supplies were exhausted on January 11th, 2012. The 953 cases were completed over the life of the award using supplies and overtime. For the CODIS metrics related to in-house cases, there were 413 uploads, 187 felon hits, and 10 case-to-case hits. Goal exceeded.

Goal 3: All objectives have been completed. The two ABI 3500 genetic analyzers have been received, performance checked and are ready for use.

Discussion

The original Project Narrative goal was to outsource 780 cases and work 490 cases in-house. Due to the difficulty with forecasting contract lab costs, we only outsourced 691 cases.

However, the goal of 490 in-house cases completed was greatly exceeded with 953 DNA cases completed. The total number of completed cases was 1644.

The hypothesis that the percentage of property crime cases would increase proved to be true. Approximately 37% (366 cases) of completed in-house case were property crimes.

Historically, property crime cases have represented less than 10% of our casework; therefore this is a significant increase.

Turnaround time has dropped by 33% and the average number of DNA samples per analyst, per month has increased 7%. Backlog increased slightly and at the time it was calculated; only 26 cases were not assigned to an analyst. The majority of the cases were being actively worked, had reports in progress, or were in the review process.

This award was a major success for our agency. The program narrative mentioned our continuing budget woes to pay for supplies. Without this award, the expansion into property crimes would not have been possible.

NOTE: The backlog at the beginning of the award was revised from 690 cases to 981 cases to reflect correct backlog numbers. The additional cases were cases that were assigned to analysts or in final review, but exceeded the 30 day turnaround time.

FY10 Recipient Name: County of Alameda, California

Award Number: 2010-DN-BX-K082

Award Amount: \$228,894

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goal of this grant proposal is to continue funding two full-time Criminalists as well as provide funding for service / maintenance contracts. One of the funded Criminalists will be responsible for DNA casework and technical reviews. The other Criminalist (DNA Technical Lead) will be responsible for technical aspects of the DNA unit as well as oversight of the day-to-day quality assurance and accreditation compliance activities. The DNA Technical Lead will perform technical and administrative reviews, conduct and review validations and conduct casework on a part time basis.

The objectives for funding two full-time Criminalists are to improve the efficiency and effectiveness of the DNA unit, increase the case productivity through staffing as well as reducing turnaround times.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Approximately \$194,000 of the 2010 DNA grant is allocated for funding staff.

Approximately \$35,000 is allocated for service / maintenance contracts.

At this time the ACSO Crime Lab has used approximately \$3,000 for a service / maintenance contract. It is anticipated that funding for the other service / maintenance contracts will be obligated in April / May 2011.

It is anticipated that funding from this grant proposal for staffing will begin drawing down in February / March 2011. These funds will be used to continue funding the two Criminalist positions previously funded by the 2006 – 2009 DNA grants.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

At this time the ACSO Crime Lab has expended approximately \$98,000 to continue funding the two Criminalist positions previously funded by the 2006 – 2009 DNA grants.

The ACSO Crime Lab has used approximately \$24,000 for a service / maintenance contract for Applied Biosystems.

The remaining funds will be used to continue funding the two Criminalist positions. All funds are anticipated to be spent by the end of the grant period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

At this time the ACSO Crime Lab has expended all the remaining funds on funding the two Criminalist positions.

The ACSO Crime Lab is expecting \$32,001.45 of program income from the County of Alameda which will be used to purchase supplies and kits for two unfinished validations (Y-filer, Identifiler Plus). It is anticipated that the program income will be expended by the end of the grant period – March 31, 2012. If not, a GAN will be submitted to extend the grant.

PROGRESS REPORT 4: January 1, 2012 – April 30, 2012

At this time the ACSO Crime Lab has expended all funds.

The ACSO Crime Lab did not receive the expected \$32,001.45 in program income from the County of Alameda before the end of the grant period – March 31, 2012. As a result, a check in the amount of \$32,001.45 of unspent program income is being returned to OJP.

FINAL REPORT:

The ACSO Crime Lab successfully met all the goals of this grant proposal. In summary funds from this grant proposal continued to fund two Criminalist positions (DNA Technical Lead and Criminalist) previously funded by the 2006-2009 DNA grants and service / maintenance contracts for DNA instrumentation.

The overall success of this grant was evident with the increased case productivity, maintaining the turn around time and capacity of samples analyzed per month per analyst. As of April 30, 2012 the DNA unit has completed 85 cases with a turn around time of 48 days.

In 2011 the DNA unit completed 214 cases with a turn around time of 58 days.

In 2010 the DNA unit completed 179 cases with a turn around time of 50 days.

In 2009 the DNA unit completed 173 cases with a turn around time of 139 days.

From October 1 through December 31, 2010, the optional metrics were not reported but have been included in the final cumulative metrics.

From October 1, 2010 through March 31, 2012, the cumulative metrics are as follows. The average number of days between the submission of a sample and the delivery of the test results to the requesting agency was approximately 55 days. The average number of samples analyzed per analyst per month was 29 samples. Grant funded analysts completed 57 cases, uploaded 21 profiles to CODIS of which 8 obtained hits.

Without the assistance of funds from this grant the ACSO Crime Lab would not be as successful as it is today in meeting the needs of our law enforcement agencies including our own agency.

FY10 Recipient Name: County of Santa Clara, California

Award Number: 2010-DN-BX-K064

Award Amount: \$255,873

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective #1 – Backlog reduction

In the grant proposal, the first objective was described as follows: “Analyze 155 backlogged cases using grant funds. This will include a combination of backlogged cases as of October 1, 2010, and those that are received during the grant period, backlogged, and then assigned and completed before the end of the grant. The laboratory adopts the

definition of “backlogged request” as defined in the grant solicitation: “A request that has been submitted to the DNA laboratory and is not completed within 30 days.”

Objective #2 – Turnaround time

In the grant proposal, the second objective was described as follows: “Turnaround times for DNA casework will improve from an average of 79 days to 70 days from date of submission to date of review.” It should be noted that 79 days was the projected turnaround time when the proposal was written and the actual average turnaround time on October 1, 2010 was 84 days.

Objective #3 – Sample throughput

In the grant proposal, the third objective was described as follows: “Casework throughput will improve from 19 samples per analyst per month to 24 samples per analyst per month.”

At the end of this three month reporting period, 946 samples had been processed by the 14 analysts doing DNA casework (1 analyst only does screening casework, and the three DNA supervisors are counted as one analyst), which equates to 22.5 samples per analyst per month. This is an improvement from the beginning of the reporting period, but is still shy of the 24 sample goal. It is anticipated that this goal can be achieved once the enhanced chemistry and new employees are online.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The required performance metrics have been submitted through GMS.

The main objectives for this award were to reduce the backlog, reduce turn-around times, and increase sample throughput; each is discussed in further detail in the paragraphs that follow. To achieve these goals, the laboratory used grant funds to pay the salary and benefits of two Criminalists, and to purchase an enhanced amplification chemistry for validation (5 kits) and casework use (7 kits). Both Criminalists funded under this award have been focused on completing backlogged DNA casework (includes biological screening tasks). The amplification kits have been used to complete the validation and staff training and casework implementation are expected to commence in February.

Objective #1 –

On October 1, 2010, there were 173 backlogged DNA cases. As of December 31, 2010, the backlog consisted of 153 cases. Of the 173 cases backlogged on October 1, 2010, 59 were completed, 46 were in progress, and 68 remained unassigned. There were 223 new requests made during this reporting period; 55 of these are complete, 84 are in progress, and 84 remain unassigned. Grant-funded employees have completed 18% (21) of the 114 completed cases.

The enhanced amplification chemistry is in the final stages of validation, and therefore, a reduction in turnaround time cannot yet be correlated to this grant-funded supply. The new chemistry is expected to reduce turn-around times due to increased sensitivity, the ability to overcome inhibition, improved balance, reduced amplification time, and a reduction in the number of required amplifications.

Objective #2 –

At the end of the reporting period, the average turnaround time from date of submission to the date of review was 95.59 days, which is a significant increase from the beginning of the grant period. This can be partially attributed to the departure of an employee that consistently completed at least 25 cases per quarter with an average turnaround time

around 35 days. A second high-producing employee (~15 cases per quarter with an average turnaround time of ~30 days) separated from the laboratory at the end of November. Both positions have been filled by analysts whose experience should serve to normalize and further reduce the turnaround time. This trend may not be apparent for two more quarters since the new employees require some training before they can start casework.

As mentioned above, the enhanced amplification chemistry will streamline workflow and serve not only to help reduce backlog, but also reduce turnaround times.

Objective #3 –

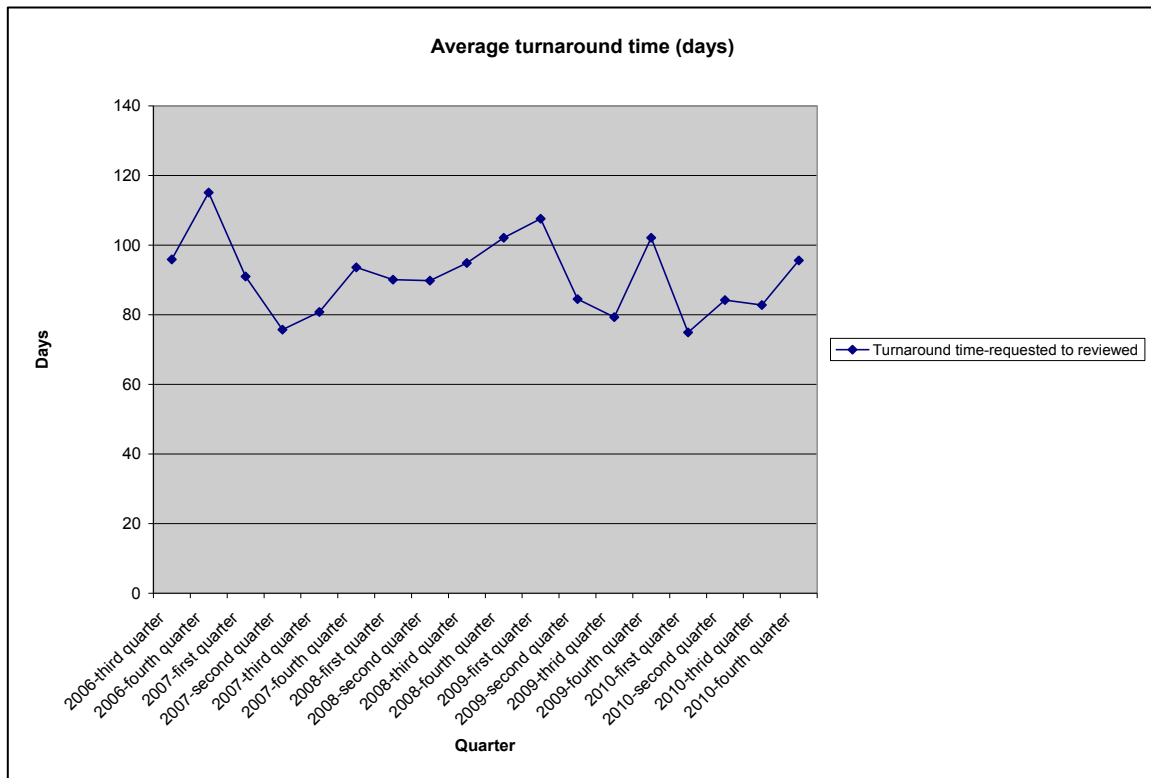
At the end of this three month reporting period, 946 samples had been processed by the 14 analysts doing DNA casework (1 analyst only does screening casework, and the three DNA supervisors are counted as one analyst), which equates to 22.5 samples per analyst per month. This is an improvement from the beginning of the reporting period, but is still shy of the 24 sample goal. It is anticipated that this goal can be achieved once the enhanced chemistry and new employees are online.

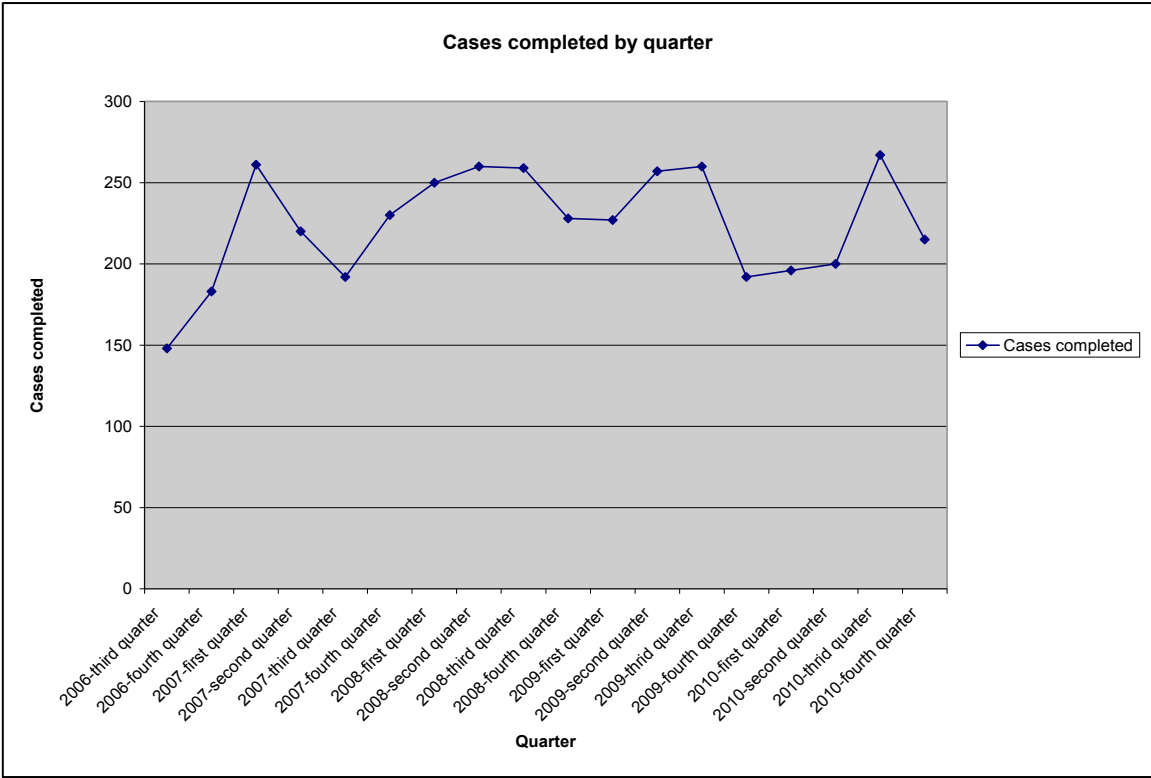
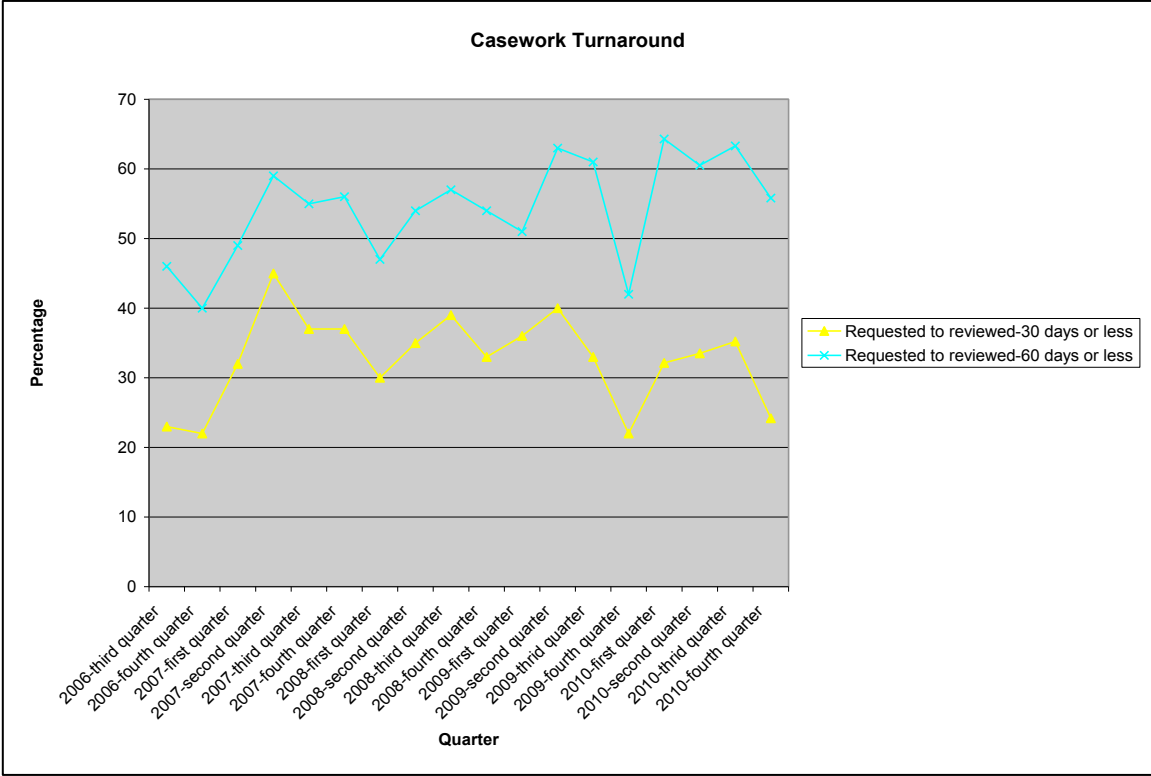
The charts and tables that follow summarize some of the performance metric trends discussed above:

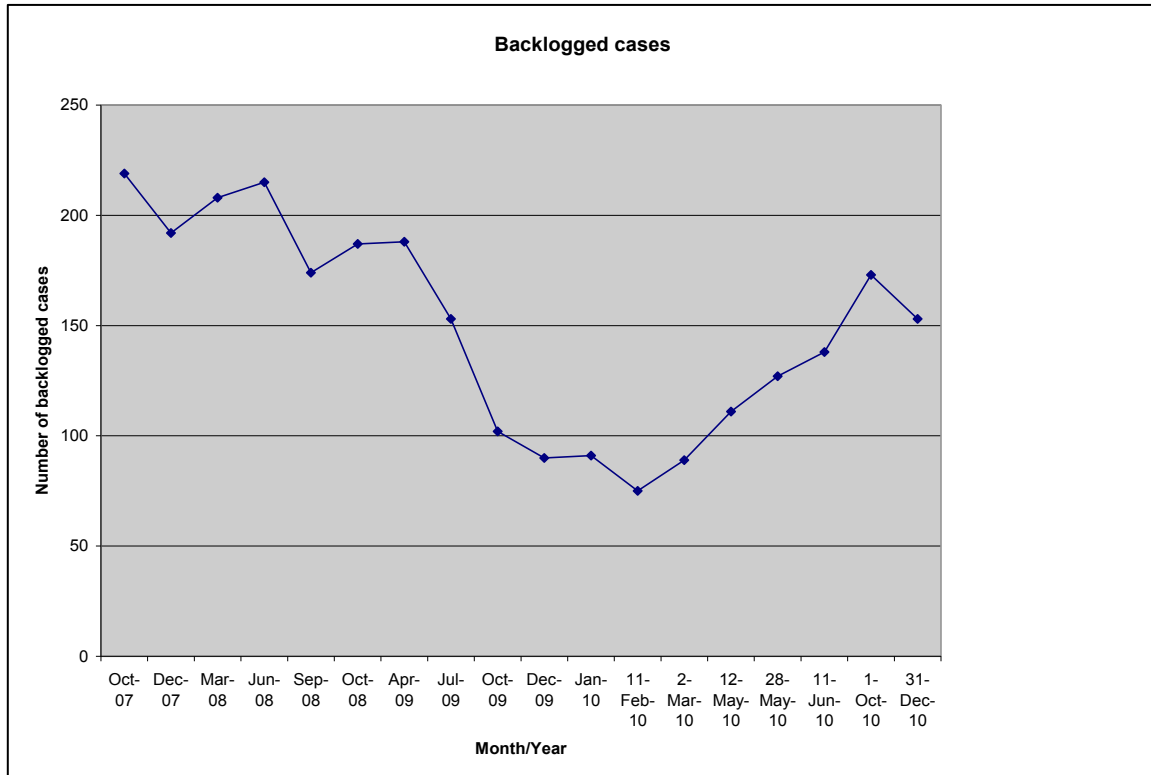
Analyst Completed Cases 10/1/2010 - 12/31/2010						
	Requested to Reviewed					Cases Completed
	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	
	30	60	30	60		
Analyst 2	3	5	60.00	100.00	28.60	5
Analyst 3	3	5	60.00	100.00	21.00	5
Analyst 4	1	6	7.14	42.86	105.36	13
Analyst 5	5	11	17.86	39.29	157.32	28
Analyst 6	6	11	35.29	64.71	78.88	17
Analyst 7	8	15	44.44	83.33	40.33	18
Analyst 8	1	1	16.67	16.67	201.00	5
Analyst 9	0	4	0.00	22.22	148.06	18
Analyst 10	8	19	28.57	67.86	64.32	28
Analyst 11	6	12	30.00	60.00	79.45	19
Analyst 12	5	8	35.71	57.14	73.93	14
Analyst 1	0	0	0.00	0.00	110.50	2
Analyst 13	2	4	28.57	57.14	78.86	7

Analyst 14	1	4	7.69	30.77	84.85	13
Analyst 15	2	5	28.57	71.43	86.00	7
Analyst 16	1	7	7.14	50.00	130.50	13
Analyst 17	0	3	0.00	100.00	46.33	3
Totals/Averages	52	120	24.19	55.81	95.59	215

Highlighted analysts are grant-funded.



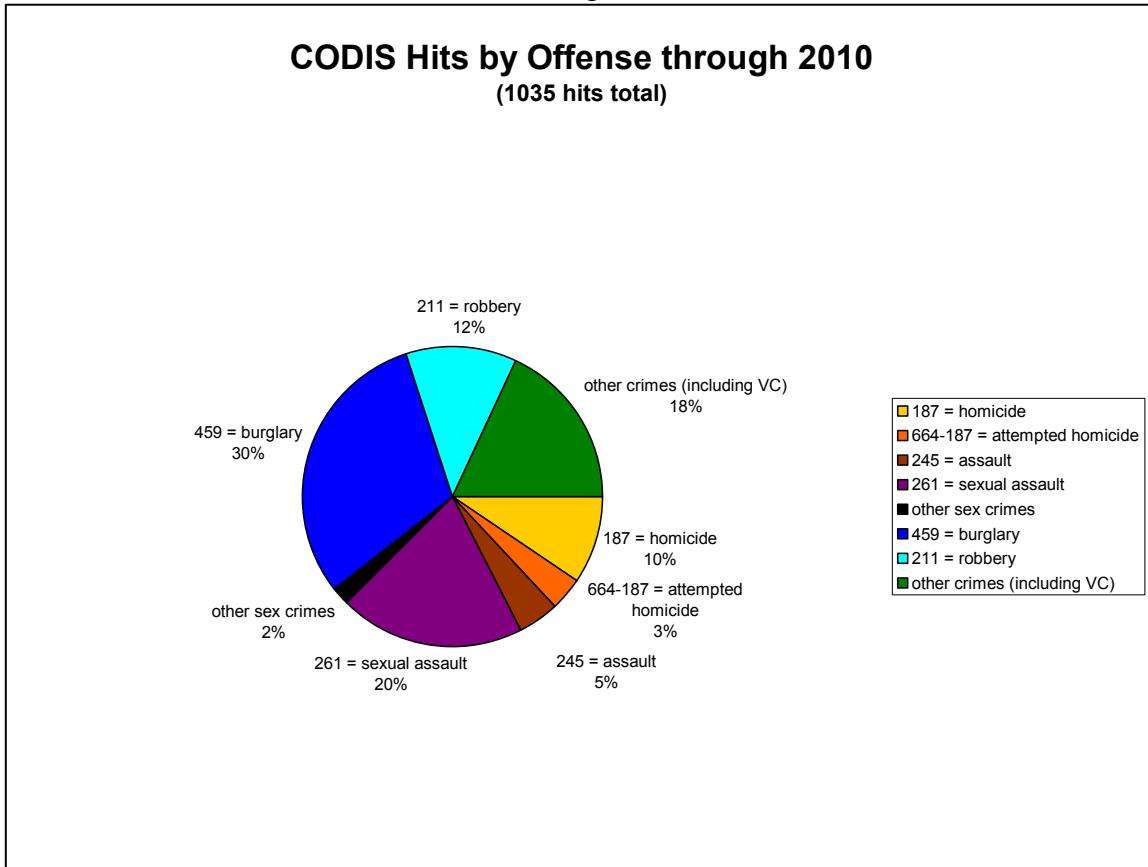




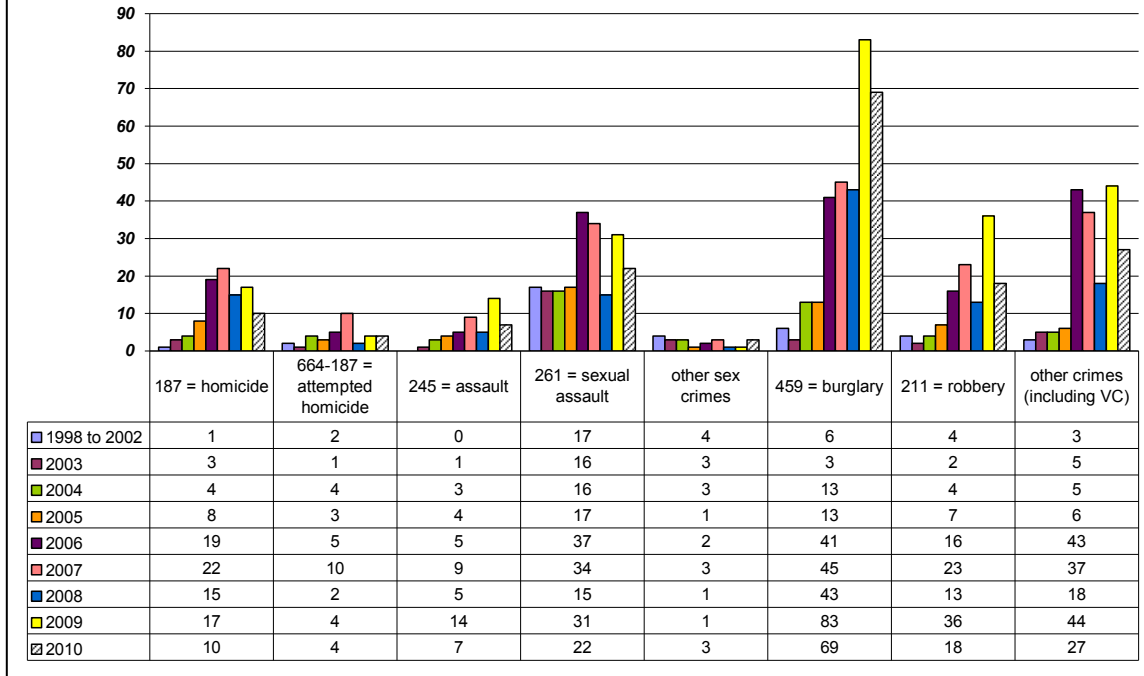
GAN activity: One GAN was submitted and approved in this reporting period to change the Authorized Signing Official and the grant Point of Contact. The former Laboratory Director previously held these roles and he has since retired. The Assistant District Attorney will act as the Authorized Signing Official and the Supervising Criminalist will resume the role of Point of Contact.

CODIS activity: Grant-funded employees have submitted 18 profiles into CODIS during this reporting period, which resulted in five hits as of December 31, 2010. The following charts

summarize CODIS hits made unit-wide through the end of 2010.



**CODIS Hits by Offense per Year
through 2010
(1035 hits total)**



PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The required performance metrics have been submitted through GMS. The main objectives for this award were to reduce the backlog, reduce turn-around times, and increase sample throughput; each is discussed in further detail in the paragraphs that follow. To achieve these goals, the laboratory used grant funds to pay the salary and benefits of two Criminalists, and to purchase an enhanced amplification chemistry for validation (5 kits) and casework use (3 kits), silver themal cycler blocks (4 total), and one UV crosslinker. Both Criminalists funded under this award have been focused on completing backlogged DNA casework (includes biological screening tasks). The amplification kits have been used to complete the validation and staff training, and the chemistry was implemented for casework use as of May 2011. The silver themal cycler blocks are currently in the validation stages, and the UV crosslinker is being utilized to decontaminate consumables.

Objective #1 –

On October 1, 2010, there were 173 backlogged DNA cases. As of June 30, 2011, the backlog consisted of 197 cases. Of the 173 cases backlogged on October 1, 2010, 118 were completed, 14 were in progress, and 41 remained unassigned. There were 491 new requests made during this reporting period; 283 of these are complete, 113 are in progress, and 95 remain unassigned. Grant-funded employees have completed 20% (81) of the 401 completed cases.

The Identifiler® Plus validation was completed on March 22, 2011 and all analysts completed competencies as of May 4, 2011. A reduction in turnaround time cannot yet

be correlated to this grant-funded supply as many of the cases processed with this kit have not been completed. The new chemistry is expected to reduce turn-around times due to increased sensitivity, the ability to overcome inhibition, improved balance, reduced amplification time, and a reduction in the number of required amplifications.

Objective #2 –

At the end of the reporting period, the average turnaround time from date of submission to the date of review was 96 days, which is a significant increase from the beginning of the grant period. The increase in turnaround times may be attributed to the following factors: 1) productivity typically decreases during the holiday season due to scheduled time-off, 2) approximately ten analysts spent a week at training in February, 3) there was a quality control issue with the TE buffer purchased through a vendor which shut the unit down for approximately one week in March, 4) a quality control issue was identified with the lot of Yfiler® kits received from Applied Biosystems, and the manufacturer could not replace the lot until the end of March, and 5) a position was vacated in November 2010 by a highly productive analyst and the individual who filled that vacancy just began casework in July 2011.

As mentioned above, the enhanced amplification chemistry will streamline workflow and serve not only to help reduce backlog, but also reduce turnaround times.

Objective #3 –

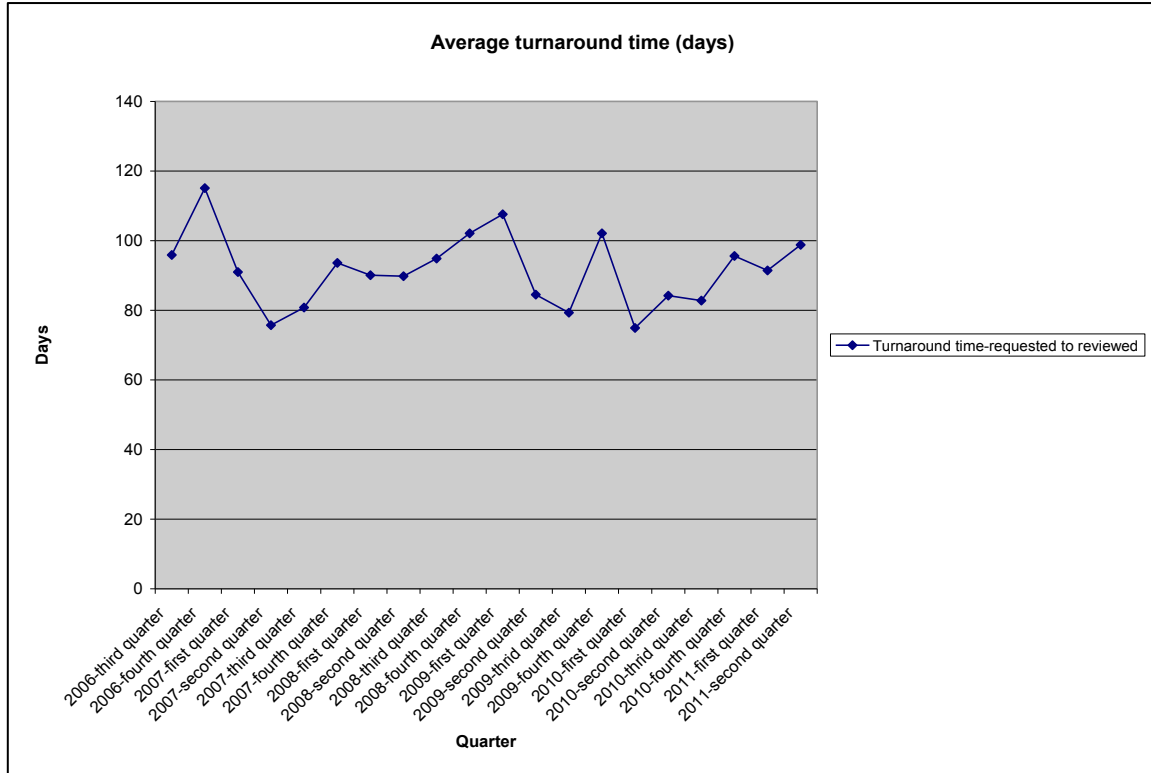
In the grant proposal, the third objective was described as follows: “Casework throughput will improve from 19 samples per analyst per month to 24 samples per analyst per month.”

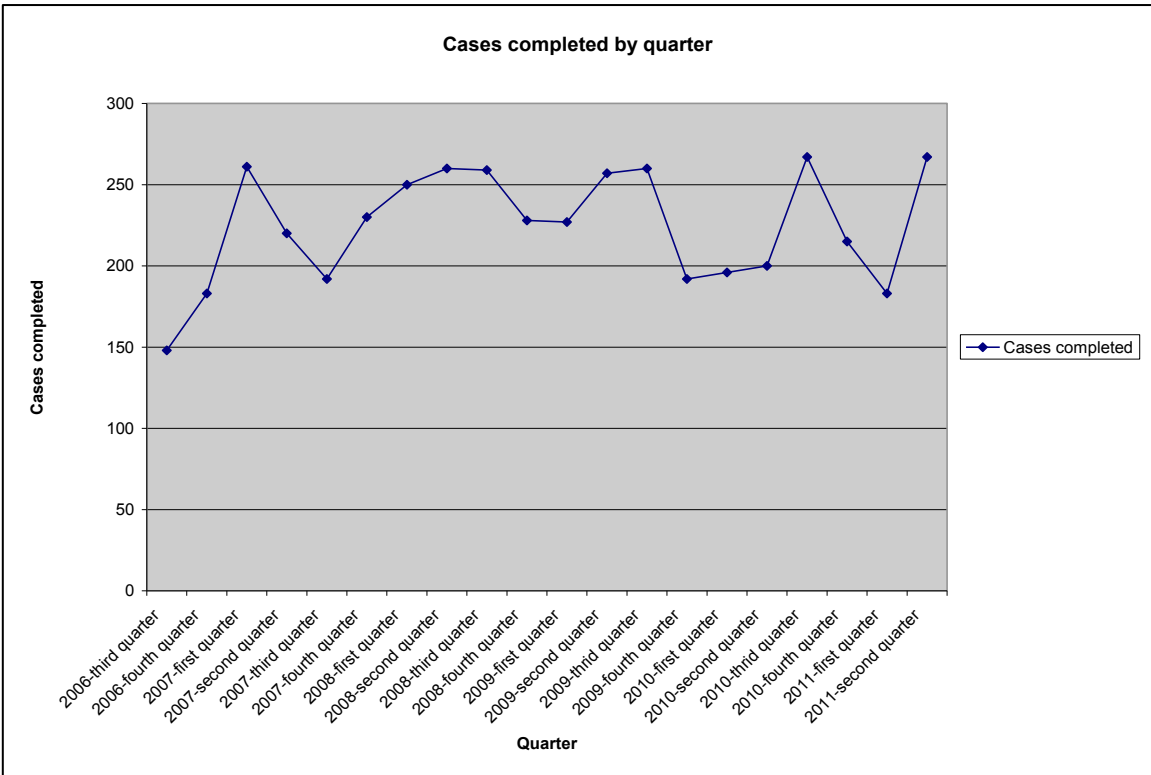
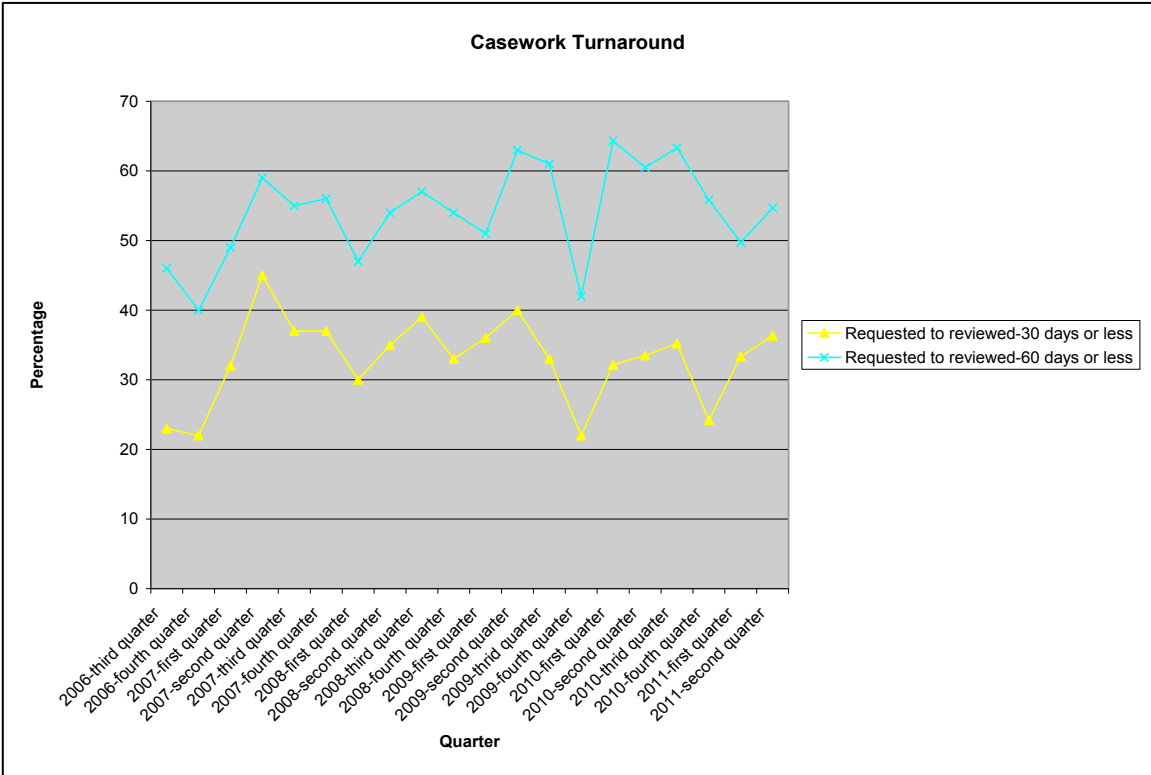
At the end of this reporting period, 1413 samples had been processed by the 14 analysts doing DNA casework (Analyst 1 only does screening casework, and the three DNA supervisors are counted as one analyst), which equates to 17 samples per analyst per month. It is anticipated that this goal can be achieved once the enhanced chemistry has taken effect and the new employee is online. The charts and tables that follow summarize some of the performance metric trends discussed above:

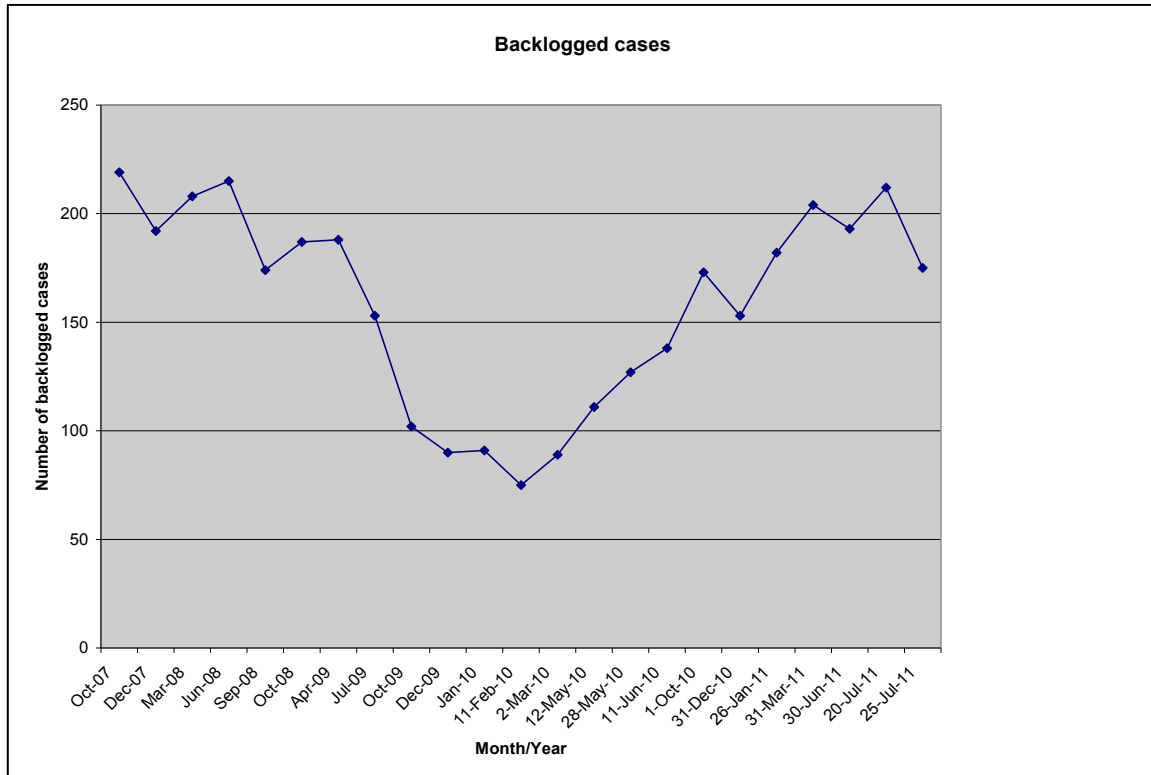
7/25/2011

Analyst Completed Cases
1/1/2011 - 6/30/2011

	Requested to Reviewed					Assigned to Completed					Cases Completed
	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	
	30	60	30	60		30	60	30	60		
	7	10	58.33	83.33	54.42	9	11	75.00	91.67	42.67	12
	17	17	100.00	100.00	5.29	17	17	100.00	100.00	2.53	17
	8	13	29.63	48.15	73.89	13	25	48.15	92.59	36.85	27
	13	24	30.95	57.14	77.98	19	30	45.24	71.43	39.98	42
	14	17	41.18	50.00	79.97	17	28	50.00	82.35	41.65	34
	4	5	15.38	19.23	282.31	4	5	15.38	19.23	201.08	26
	4	13	17.39	56.52	72.83	12	23	52.17	100.00	27.91	23
	9	10	47.37	52.63	70.05	9	11	47.37	57.89	55.26	19
	34	42	61.82	76.36	48.15	39	55	70.91	100.00	21.91	52
	8	14	26.67	46.67	105.50	10	19	33.33	63.33	50.10	30
	13	20	27.08	41.67	118.00	24	35	50.00	72.92	52.25	47
	4	5	33.33	41.67	101.42	6	7	50.00	58.33	65.00	12
	5	13	14.29	37.14	96.54	9	21	25.71	60.00	63.06	34
	3	5	16.67	27.78	160.44	3	7	16.67	38.89	81.33	18
	9	15	37.50	62.50	84.83	11	16	45.83	66.67	54.25	24
	1	6	5.00	30.00	124.95	4	9	20.00	45.00	83.75	20
	5	8	38.46	61.54	77.85	10	11	76.92	84.62	37.77	13
Totals/Averages	158	237	35.11	52.67	95.79	216	330	48.00	73.33	54.29	450



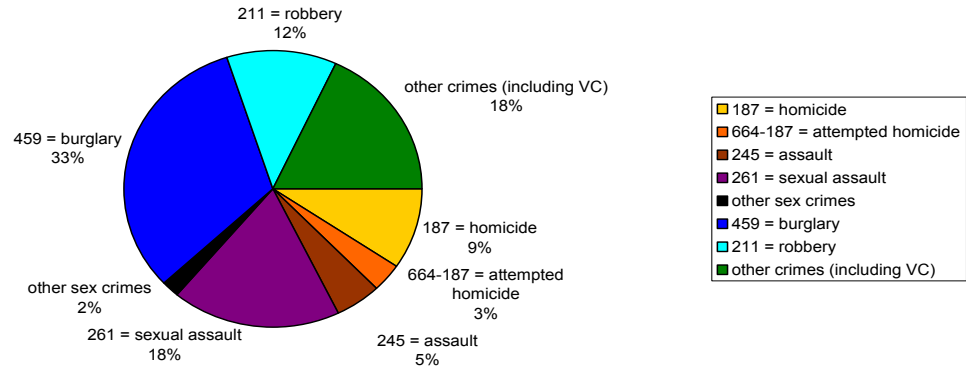




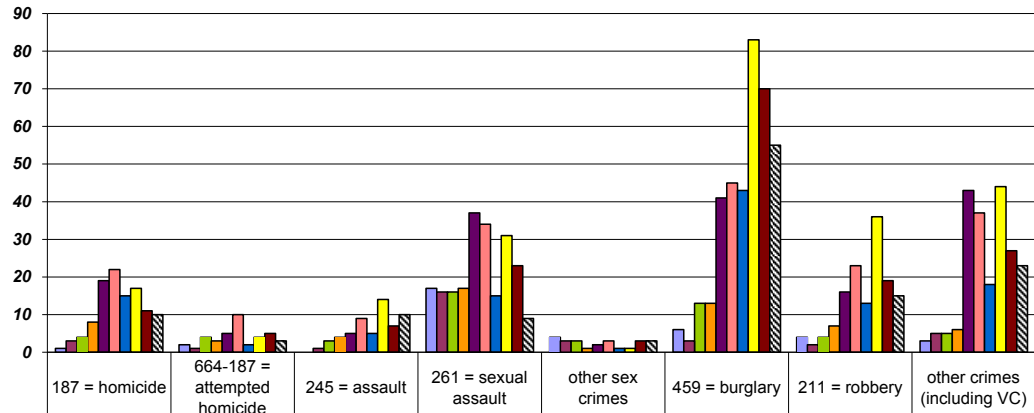
GAN activity: Three GANs were submitted and approved in this reporting period. One changed the Authorized Signing Official from Supervising Deputy District Attorney to the laboratory's new Director. A second GAN added Supervising Criminalist as an Alternate Contact. The third GAN was a budget modification in which we reduced the number of Identifiler® Plus kits needed for casework (from seven to three) and allocated the balance of the funds for critical equipment, specifically thermal cycler blocks (4) and a UV crosslinker (1).

CODIS activity: Grant-funded employees have submitted 33 profiles into CODIS during this reporting period, and have obtained 27 CODIS hits. The following charts summarize CODIS hits made unit-wide through June 30, 2011.

CODIS Hits by Offense through June 30, 2011 (1168 hits total)



CODIS Hits by Offense per Year through June 30, 2011 (1168 hits total)



Year	187 = homicide	664-187 = attempted homicide	245 = assault	261 = sexual assault	other sex crimes	459 = burglary	211 = robbery	other crimes (including VC)
1998 to 2002	1	2	0	17	4	6	4	3
2003	3	1	1	16	3	3	2	5
2004	4	4	3	16	3	13	4	5
2005	8	3	4	17	1	13	7	6
2006	19	5	5	37	2	41	16	43
2007	22	10	9	34	3	45	23	37
2008	15	2	5	15	1	43	13	18
2009	17	4	14	31	1	83	36	44
2010	11	5	7	23	3	70	19	27
2011	10	3	10	9	3	55	15	23

PROGRESS REPORT 3: July 1, 2011 – December 31, 2012

The required performance metrics have been submitted through GMS. Metrics were based on cases completed by grant-funded employees and cases in which a grant-funded supply was used. The funding allocated for salary and benefits was exhausted on August 7th, 2011. Between August 7th and December 31st 2011 the two Criminalists started using the grant-funded Identifiler® Plus kits exclusively. This approach eliminated the possibility of double-counting grant-funded activities (e.g., personnel and supplies) and facilitated easier reporting. Because the kits were not being depleted as quickly as expected and the expiration date was fast approaching, the remaining members of the Forensic Biology Unit began using these kits on December 12th, 2011. The cases worked using the grant kits were tracked in LIMS by kit lot number (1102013 and 1102011).

The grant-funded activities were therefore reported in the following manner:

Activities attributed to grant-funded employees: Work attributable to 2 of the grant funded analysts between July 1st, 2011 and August 7th, 2011. (11 CODIS entries, 7 CODIS hits, 12 cases completed)

Activities attributed to grant-funded supplies: Work attributable to 2 of the grant funded analysts between August 7th, 2011 and December 12th, 2011, plus any case worked by other members of the Forensic Biology Unit between December 12th and December 31st involving the grant-funded Identifiler® Plus lots (1102013 and 1102011). (24 CODIS entries, 21 CODIS hits, 72 cases completed)

The kits have been depleted as of today's date; however, all cases associated with them have not yet been completed and entered into CODIS. A final report will be issued as soon as all cases have dispositioned.

Goals/objectives: The main objectives for this award were to reduce the backlog, reduce turn-around times, and increase sample throughput; each is discussed in further detail in the paragraphs that follow. To achieve these goals, the laboratory used grant funds to pay the salary and benefits of two Criminalists, and to purchase an enhanced amplification chemistry for validation (5 kits) and casework use (3 kits), silver thermal cycler blocks (4 total), and one UV crosslinker. Both Criminalists funded under this award have been focused on completing backlogged DNA casework (includes biological screening tasks). The amplification kits have been used to complete the validation and staff training, and the chemistry was implemented for casework use as of May 2011. The silver thermal cycler blocks are currently in the validation stages, and the UV crosslinker is being utilized to decontaminate consumables.

Objective #1 – Backlog reduction – GOAL ACHIEVED

In the grant proposal, the first objective was described as follows: “Analyze 155 backlogged cases using grant funds. This will include a combination of backlogged cases as of October 1, 2010, and those that are received during the grant period, backlogged, and then assigned and completed before the end of the grant.”

At the beginning of the award period (October 1st, 2010), there were 173 backlogged DNA cases. Of the 173 cases backlogged on October 1, 2010, 143 have been completed, 22 are in progress, and 8 remain unassigned.

At the beginning of this reporting period (July 1st, 2011) the backlog consisted of 199 cases. At the end of this reporting period (December 31st, 2011) the backlog was reduced to 130 cases. There were 538 new cases submitted to the laboratory during this reporting period; 324 of these are complete, 140 are in progress, and 74 remain unassigned. Grant-funded employees

completed 93 backlogged cases during this reporting period and 197 cases since the commencement of this grant.

Objective #2 – Turn-around time – GOAL IN PROGRESS

In the grant proposal, the second objective was described as follows: “Turn-around times for DNA casework will improve from an average of 79 days to 70 days from date of submission to date of review.” It should be noted that 79 days was the projected turn-around time when the proposal was written and the actual average turnaround time on October 1st, 2010 was 84 days. At the end of the reporting period, the average turn-around time from date of submission to the date of review was 78 days, which is a slight decrease from the beginning of the grant period; however, this is a marked improvement from the last reporting period in which the average turn-around time was 96 days.

The Identifiler® Plus validation was completed on March 22nd, 2011 and all analysts completed competencies as of May 4th, 2011. The new chemistry was expected to reduce turn-around times due to increased sensitivity, the ability to overcome inhibition, improved balance, reduced amplification time, and a reduction in the number of required amplifications. To determine if the implementation of this kit did indeed reduce turn-around times, the average turn-around time (from the date assigned to the date completed) was calculated for the six months before the kit was implemented (November 1st, 2010-April 30th, 2011) and also for the six months after the kit was implemented (May 1st, 2011-October 31st, 2011). The average turn-around time did decrease from 52 days to 48 days upon implementation of the kit. Based on this evaluation, the laboratory is optimistic that the average turn-around time goal of 70 days may be achieved by the end of the award period for this grant.

Objective #3 – Sample throughput – GOAL IN PROGRESS

In the grant proposal, the third objective was described as follows: “Casework throughput will improve from 19 samples per analyst per month to 24 samples per analyst per month.”

At the end of this reporting period, 1612 samples had been processed by the 14 analysts doing DNA casework (Analyst 1 only does screening casework, and the three DNA are counted as one analyst), which equates to 19 samples per analyst per month. This was an improvement from the last reporting period in which the average number of samples per analyst per month was 17. It is anticipated that sample throughput will increase slightly during the last months of this grant. The charts and tables that follow summarize some of the performance metric trends discussed above (grant funded activities have been highlighted with an arrow where applicable):

Analyst Completed Cases 7/1/2011 - 12/31/2011											
	Requested to Reviewed					Assigned to Completed					Cases Completed
	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	
	30	60	30	60		30	60	30	60		
	4	4	80.00	80.00	163.80	4	4	80.00	80.00	162.80	5
	3	4	60.00	80.00	51.40	5	5	100.00	100.00	11.40	5
	10	15	40.00	60.00	72.72	11	20	44.00	80.00	50.28	25
	16	34	29.63	62.96	92.93	35	54	64.81	100.00	26.11	52
	8	9	29.63	33.33	81.26	8	11	29.63	40.74	63.59	27
	7	10	46.67	66.67	83.07	7	10	46.67	66.67	75.80	15
	15	25	36.59	60.98	73.83	18	34	43.90	82.93	39.07	41
	9	14	31.03	48.28	120.21	10	17	34.48	58.62	91.90	29
	43	59	58.90	80.82	50.21	63	71	86.30	97.26	22.75	72
	16	32	33.33	66.67	64.00	22	40	45.83	83.33	43.13	48
	12	21	28.57	50.00	82.71	21	41	50.00	97.62	30.24	42
	45	51	77.59	87.93	33.71	55	58	94.83	100.00	16.00	58
	5	5	50.00	50.00	71.70	5	5	50.00	50.00	50.70	9
	6	9	33.33	50.00	95.22	6	11	33.33	61.11	61.61	18
	7	13	25.93	48.15	137.44	8	17	29.63	62.96	82.19	27
	0	5	0.00	20.00	135.96	1	14	4.00	56.00	89.16	25
	3	3	75.00	75.00	26.25	3	4	75.00	100.00	12.50	4
Totals/Averages	209	313	41.63	62.35	78.41	282	416	56.18	82.87	44.87	502

Analyst Completed Cases 7/1/2011 - 8/7/2011											
	Requested to Reviewed					Assigned to Completed					Cases Completed
	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	
	30	60	30	60		30	60	30	60		
	1	1	100.00	100.00	11.00	1	1	100.00	100.00	11.00	1
	2	2	33.33	33.33	113.83	2	2	33.33	33.33	101.83	6
	4	6	36.36	54.55	88.00	7	11	63.64	100.00	22.55	11
	2	2	25.00	25.00	81.75	2	2	25.00	25.00	69.50	8
	0	2	0.00	40.00	158.00	0	2	0.00	40.00	140.20	5
	4	4	50.00	50.00	60.50	4	7	50.00	87.50	30.50	8
	3	5	30.00	50.00	92.90	3	6	30.00	60.00	74.50	10
	15	18	75.00	90.00	36.65	19	20	95.00	100.00	19.10	20
	2	2	40.00	40.00	95.00	2	3	40.00	60.00	82.60	5
	5	5	100.00	100.00	19.00	5	5	100.00	100.00	7.20	5
	3	3	75.00	75.00	57.25	3	4	75.00	100.00	26.00	4
	2	2	50.00	50.00	80.25	2	2	50.00	50.00	48.00	3
	1	1	20.00	20.00	216.40	1	2	20.00	40.00	109.20	5
	1	3	25.00	75.00	43.50	1	4	25.00	100.00	40.25	4
	0	0	0.00	0.00	131.33	0	0	0.00	0.00	105.33	3
Totals/Averages	45	56	45.92	57.14	81.03	52	71	53.06	72.45	53.19	98

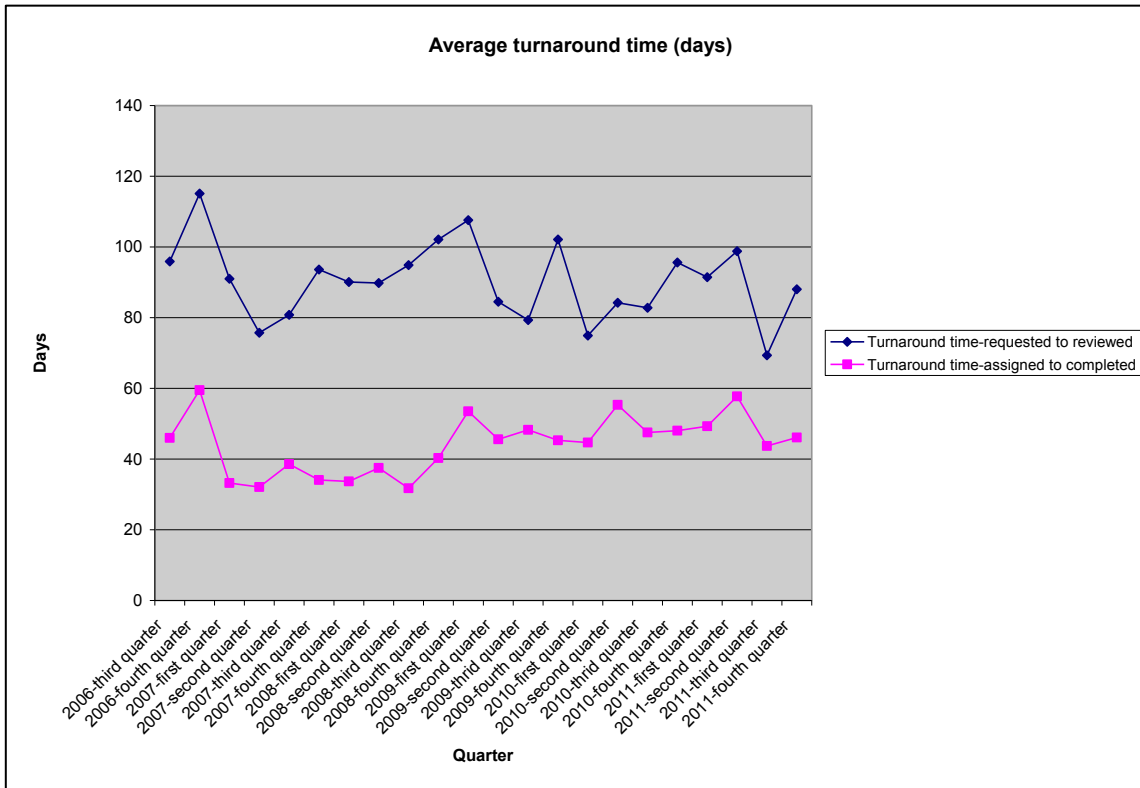
(cases attributable to grant-funds have been highlighted above (personnel))

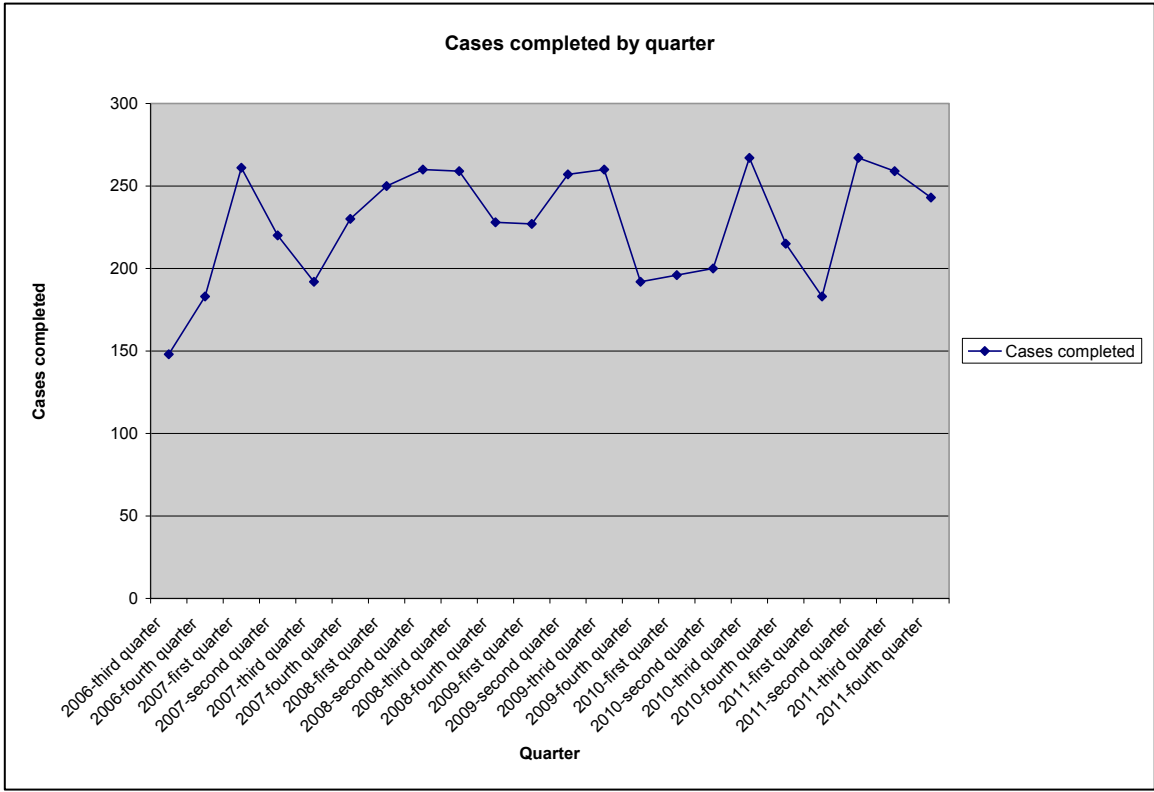
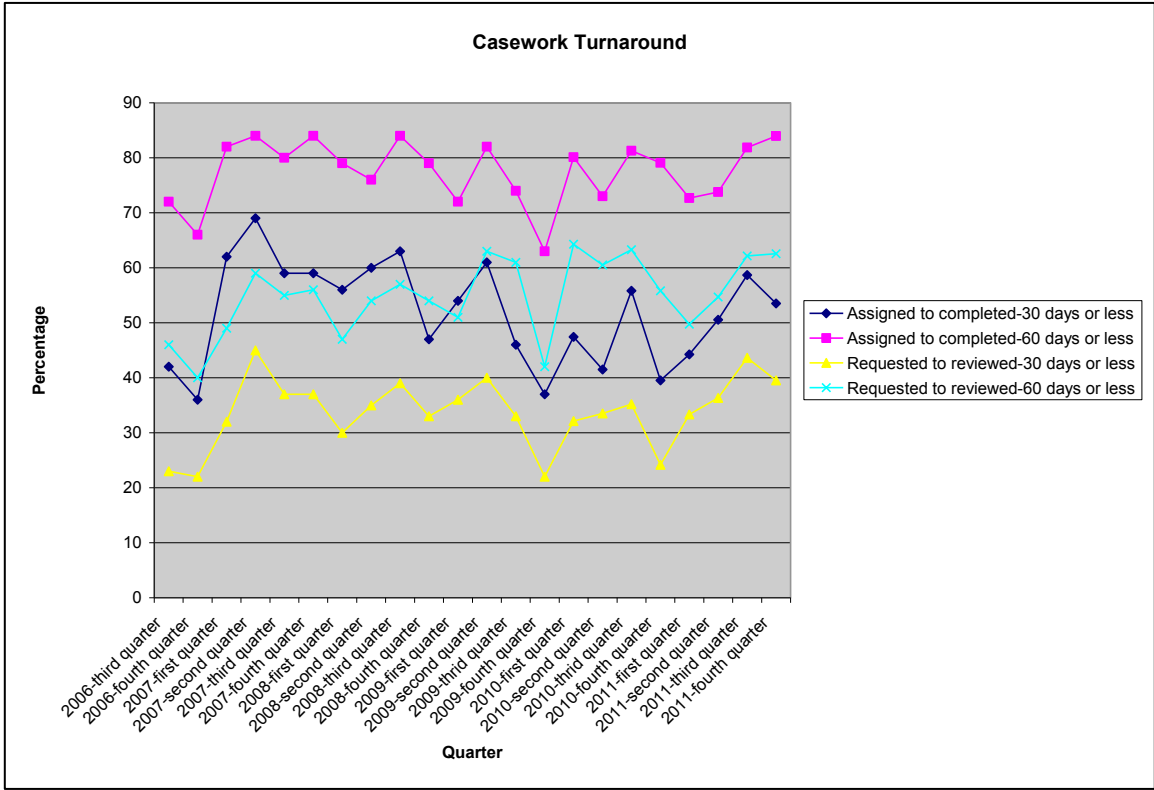
1/26/2012

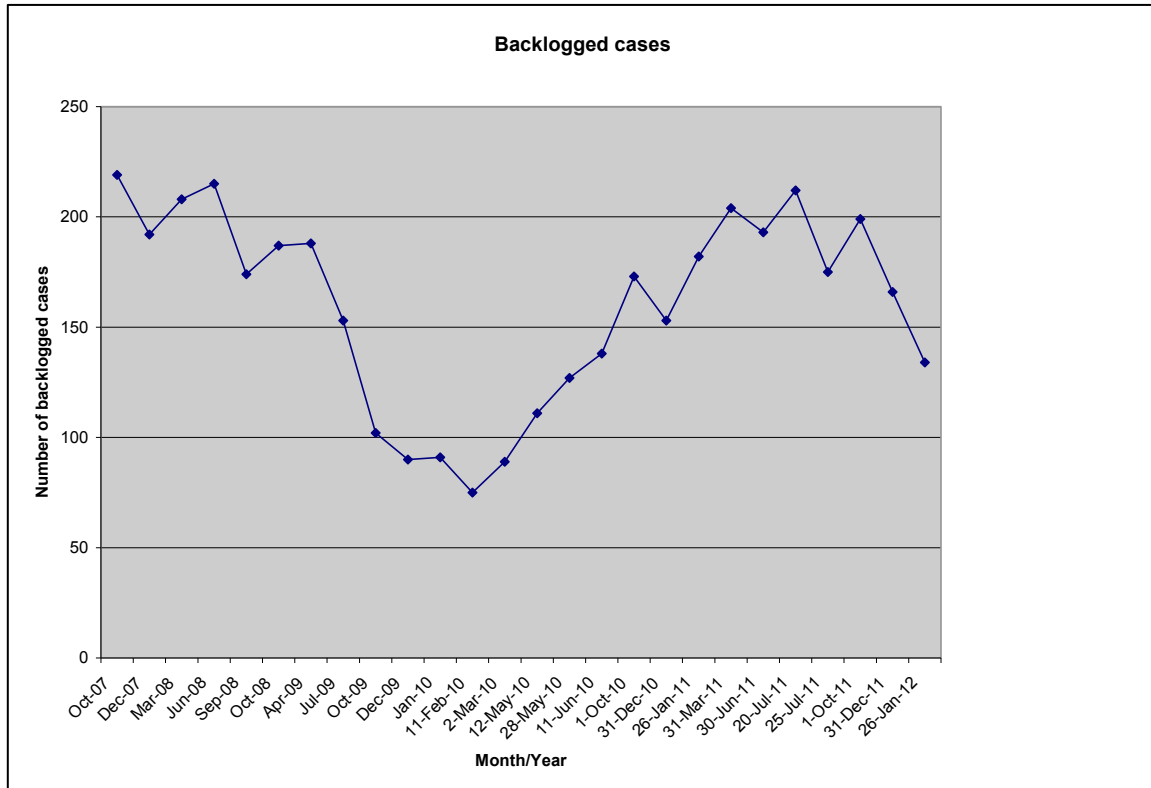
Analyst Completed Cases
8/7/2011 - 12/12/2011

	Requested to Reviewed					Assigned to Completed					Cases Completed
	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	Cases In Days Or Less		% Cases In Days Or Less		Average TAT (Days)	
	30	60	30	60		30	60	30	60		
	4	4	80.00	80.00	163.80	4	4	80.00	80.00	162.80	5
	2	3	50.00	75.00	61.50	4	4	100.00	100.00	11.50	4
	7	9	46.67	60.00	67.13	7	14	46.67	93.33	34.67	15
	9	23	26.47	67.65	77.29	24	34	70.59	100.00	27.15	34
	5	6	31.25	37.50	79.50	5	7	31.25	43.75	63.06	16
	6	7	75.00	87.50	36.75	6	7	75.00	87.50	35.38	8
	11	20	36.67	66.67	65.93	13	24	43.33	80.00	42.27	30
	3	3	33.33	33.33	183.56	4	5	44.44	55.56	114.44	9
	25	35	54.35	76.09	51.43	39	44	84.78	95.65	23.72	45
	14	28	35.00	70.00	60.93	20	35	50.00	87.50	37.55	40
	4	11	13.79	37.93	86.83	11	28	37.93	96.55	35.24	29
	40	46	78.43	90.20	24.75	49	51	96.08	100.00	15.39	51
	3	3	50.00	50.00	66.00	3	3	50.00	50.00	52.50	6
	5	7	41.67	58.33	49.75	5	8	41.67	66.67	44.08	12
	5	9	38.46	69.23	70.69	6	9	46.15	69.23	59.15	13
	0	4	0.00	26.67	127.00	1	11	6.67	73.33	67.73	15
	3	3	75.00	75.00	26.25	3	4	75.00	100.00	12.50	4
Totals/Averages	146	221	43.45	65.77	66.47	204	292	60.71	86.90	38.49	336

(cases attributable to grant-funds have been highlighted above (supplies used through 12/12/11))



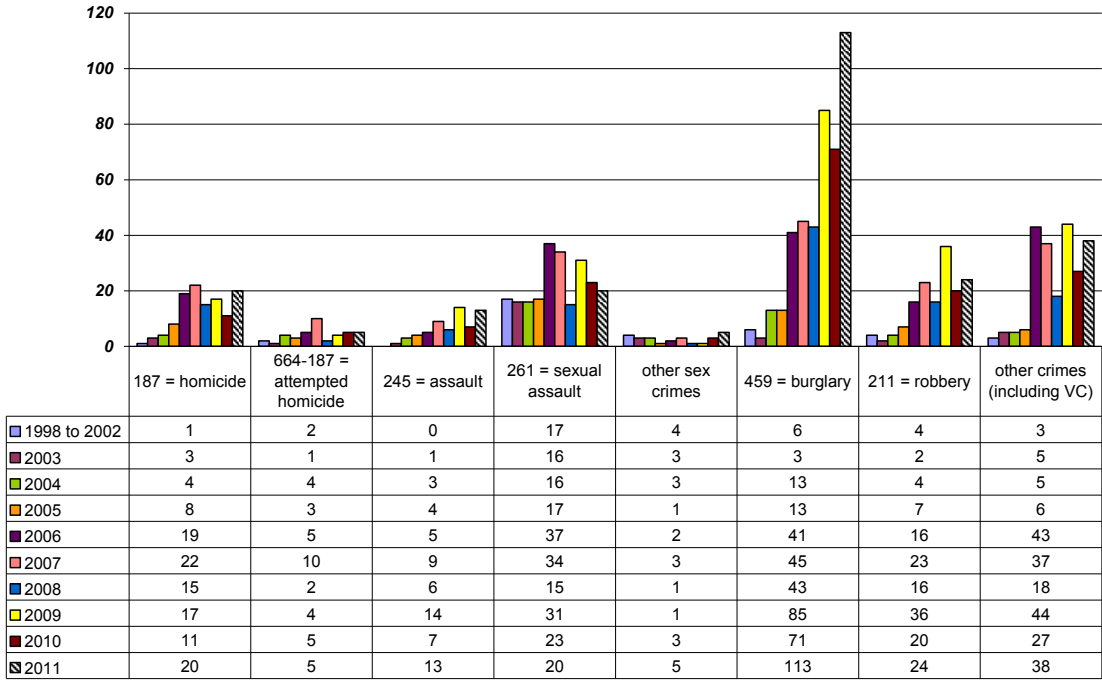




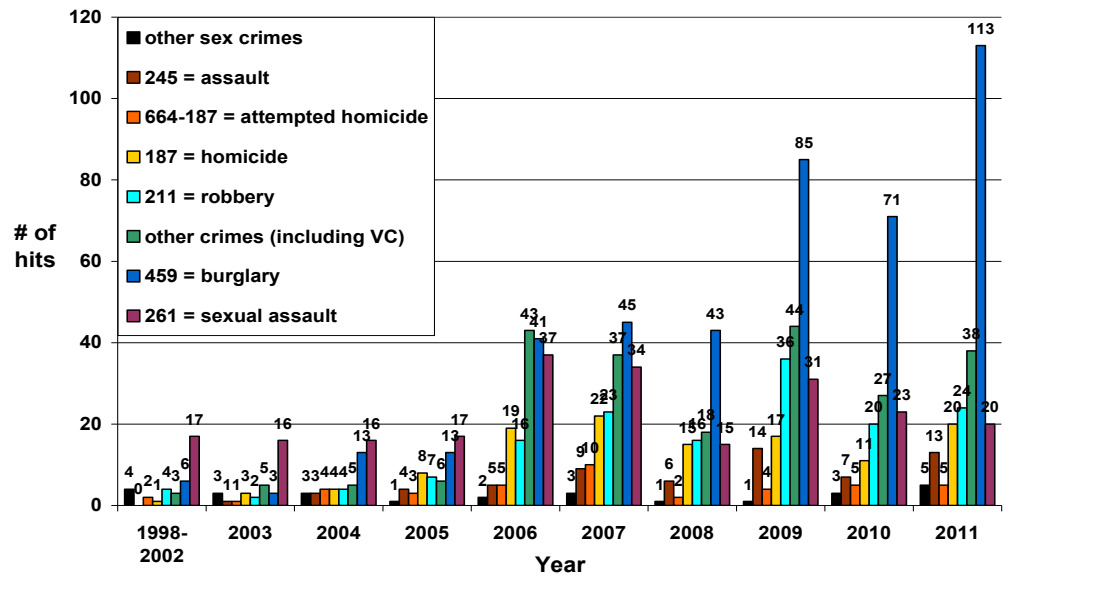
GAN activity: No grant adjustments were made during this reporting period.

CODIS activity: Grant-funded employees have submitted 11 profiles into CODIS during this reporting period, and have obtained 7 CODIS hits. 24 profiles were searched in CODIS as a result of funding used for supplies (i.e., Identifiler® Plus kits), and as a result, 21 hits were returned. It should be noted that several cases processed with grant-funded kits were not eligible for CODIS entry, but the profiles generated held significant probative value. The following charts summarize CODIS hits made unit-wide through December 31, 2011.

CODIS Hits by Offense per Year through December 31, 2011 (1286 hits total)



CODIS Hits per Offense 1998 - December 30, 2011



The required performance metrics have been submitted through GMS. Metrics were based on cases completed by grant-funded employees and cases in which a grant-funded supply was used. The funding allocated for salary and benefits was exhausted on August 7th, 2011. Between August 7th and December 31st, 2011 the two Criminalists started using the grant-funded Identifiler® Plus kits exclusively. This approach eliminated the possibility of double-counting grant-funded activities (e.g., personnel and supplies) and facilitated easier reporting. Because the kits were not being depleted as quickly as expected and the expiration date was fast approaching, the remaining members of the Forensic Biology Unit began using these kits on December 12th, 2011. The cases worked using the grant kits were tracked in LIMS by kit lot number (1102013 and 1102011).

The grant-funded activities were therefore reported in the following manner:

Activities attributed to grant-funded employees: Work attributable to 2 of the grant funded analysts between October 1st, 2011 and August 7th, 2011. (Cumulative total: 62 CODIS entries, 39 CODIS hits, 114 cases completed).

Activities attributed to grant-funded supplies: Work attributable to 2 of the grant funded analysts between October 1st, 2011 and December 12th, 2011, plus any case worked by other members of the Forensic Biology Unit between December 12th and March 22nd involving the grant-funded Identifiler® Plus lots (1102013 and 1102011). (This reporting period: 23 CODIS entries, 20 CODIS hits, 52 cases completed/Cumulative total: 47 CODIS entries, 41 CODIS hits, 124 cases completed).

Goals/objectives: The main objectives for this award were to reduce the backlog, reduce turn-around times, and increase sample throughput; each is discussed in further detail in the paragraphs that follow. To achieve these goals, the laboratory used grant funds to pay the salary and benefits of two Criminalists, and to purchase an enhanced amplification chemistry for validation (5 kits) and casework use (3 kits), silver thermal cycler blocks (4 total), and one UV crosslinker. Both Criminalists funded under this award have been focused on completing backlogged DNA casework (includes biological screening tasks). The amplification kits have been used to complete the validation and staff training, and the chemistry was implemented for casework use as of May 2011. The silver thermal cycler blocks have been validated and are available for casework use, and the UV crosslinker is being utilized to decontaminate consumables.

Objective #1 – Backlog reduction – GOAL ACHIEVED

In the grant proposal, the first objective was described as follows: “Analyze 155 backlogged cases using grant funds. This will include a combination of backlogged cases as of October 1, 2010, and those that are received during the grant period, backlogged, and then assigned and completed before the end of the grant.”

At the beginning of the award period (October 1st, 2010), there were 173 backlogged DNA cases. Of the 173 cases backlogged on October 1, 2010, 150 have been completed, 15 are in progress, and 8 remain unassigned.

At the beginning of this reporting period (January 1, 2012) the backlog consisted of 166 cases. At the end of this reporting period (March 22, 2012) the backlog was reduced to 109 cases.

There were 169 new cases submitted to the laboratory during this reporting period; 43 of these are complete, 90 are in progress, and 36 remain unassigned.

Grant funds were used to complete 52 backlogged cases during this reporting period. The total number of backlogged cases completed during this grant is 238 (114 completed by grant-funded employees and 124 completed using grant-funded supplies).

Objective #2 – Turn-around time – GOAL ACHIEVED

In the grant proposal, the second objective was described as follows: “Turn-around times for DNA casework will improve from an average of 79 days to 70 days from date of submission to date of review.” It should be noted that 79 days was the projected turn-around time when the proposal was written and the actual average turnaround time on October 1st, 2010 was 84 days. To leverage this difference, achievement of this goal is better measured by evaluating turn-around time increases/decreases by number of days.

At the end of the reporting period, the average turn-around time from date of submission to the date of review was 75 days, which is a significant decrease from the 84-day turn-around time at the beginning of the grant period, and a three day decrease from the past reporting period.

In essence, this goal was achieved – the turn-around time did decrease by nine days from the turn-around time on October 1, 2010 (from 84 to 75 days), which is what was projected at the time the proposal was written (from 79 to 70 days). This achievement can be attributed, in large part, to implementation of an enhance amplification chemistry. This chemistry serves to reduce amplification time, reduce the number of necessary amplifications, overcome inhibition, and streamline interpretation due to increased sensitivity and improved balance.

Objective #3 – Sample throughput – GOAL NOT ACHIEVED

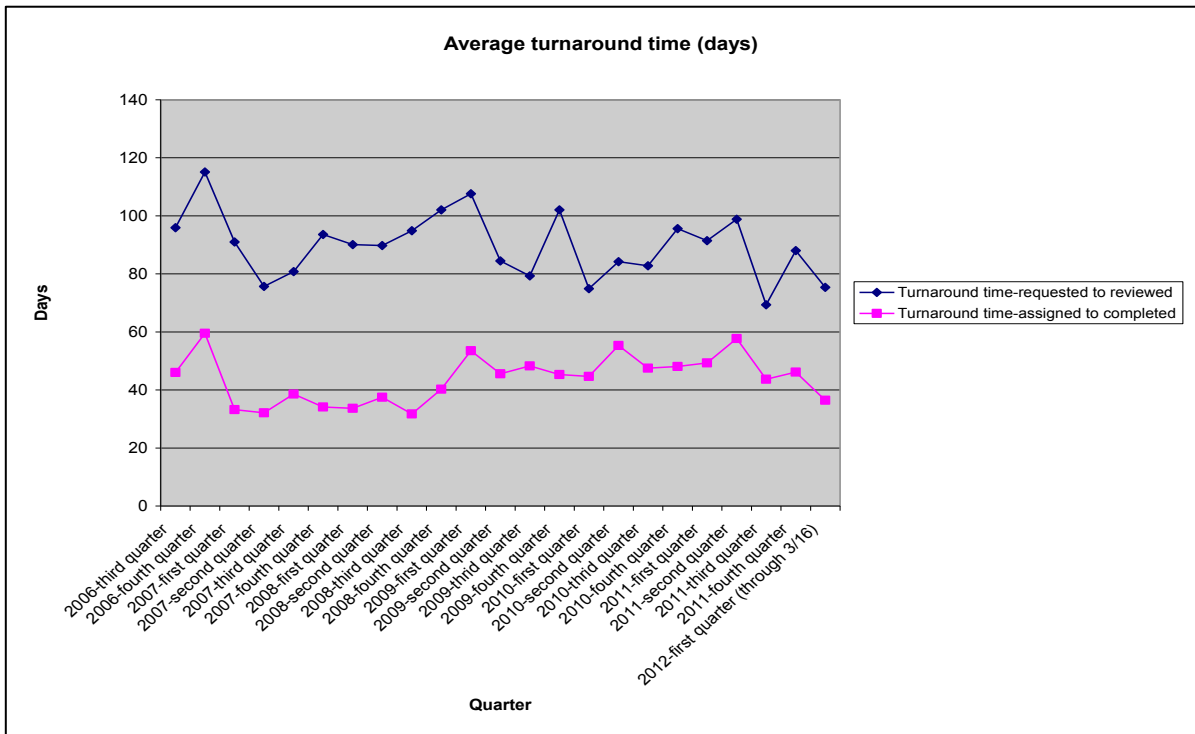
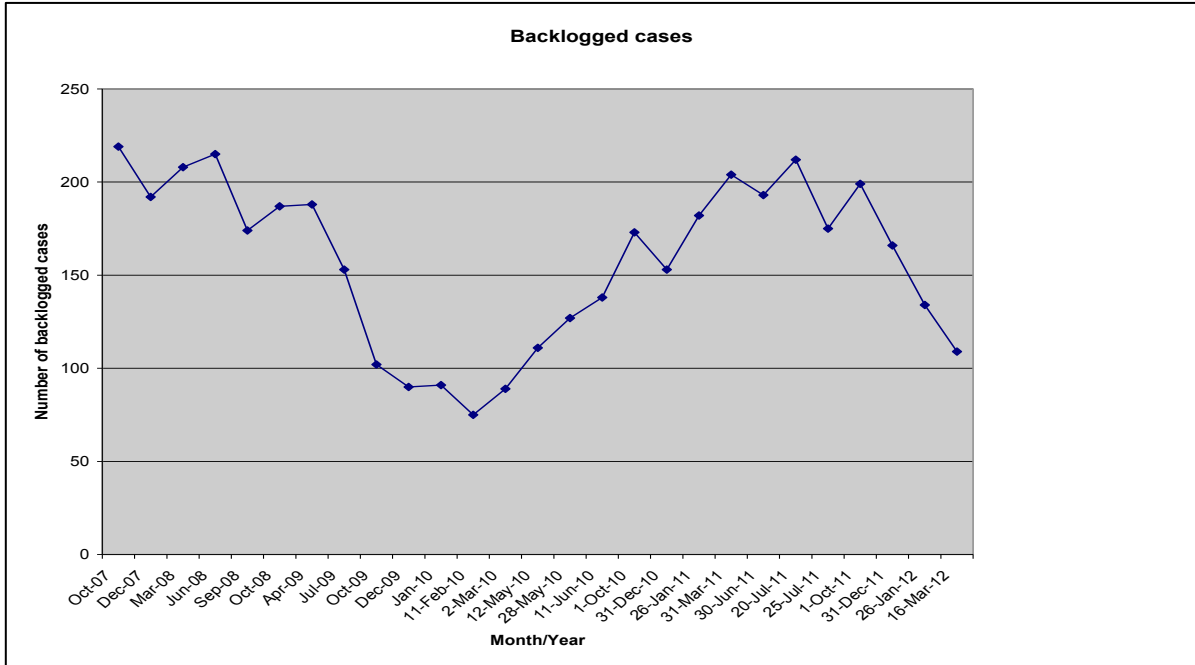
In the grant proposal, the third objective was described as follows: “Casework throughput will improve from 19 samples per analyst per month to 24 samples per analyst per month.”

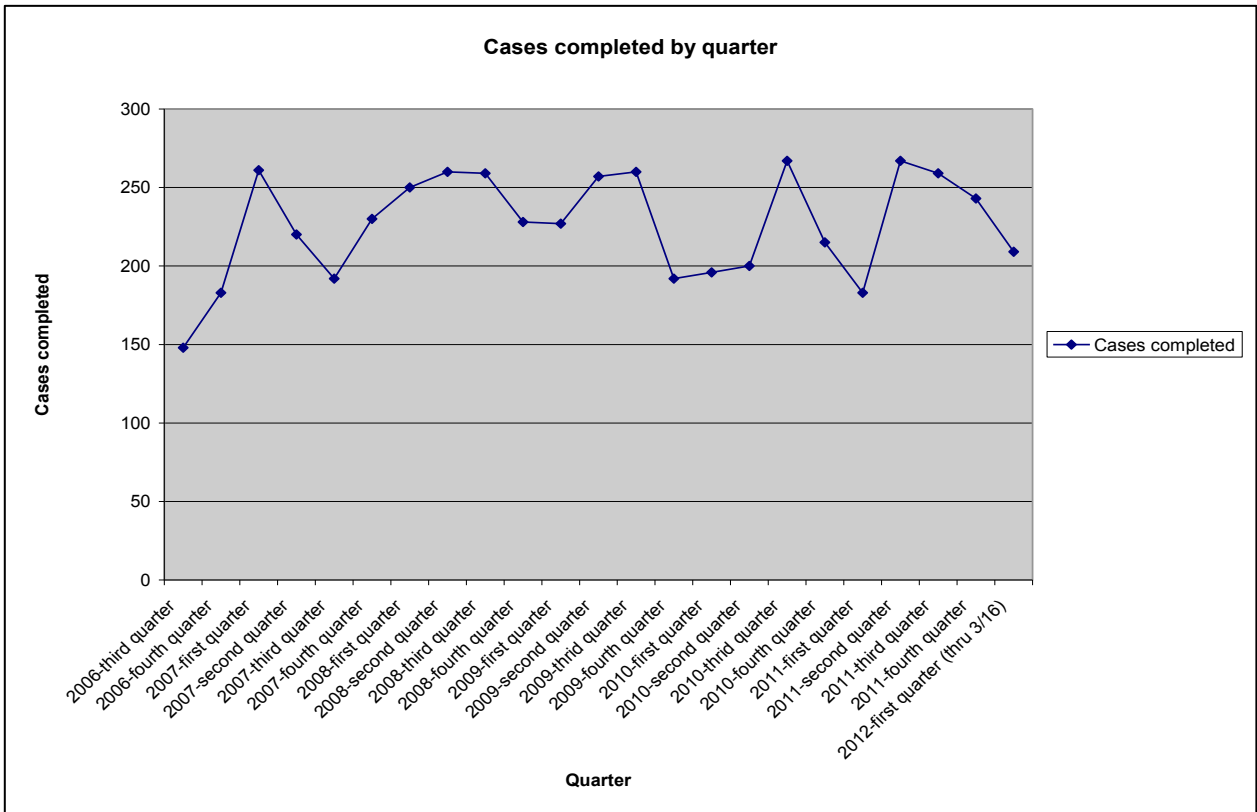
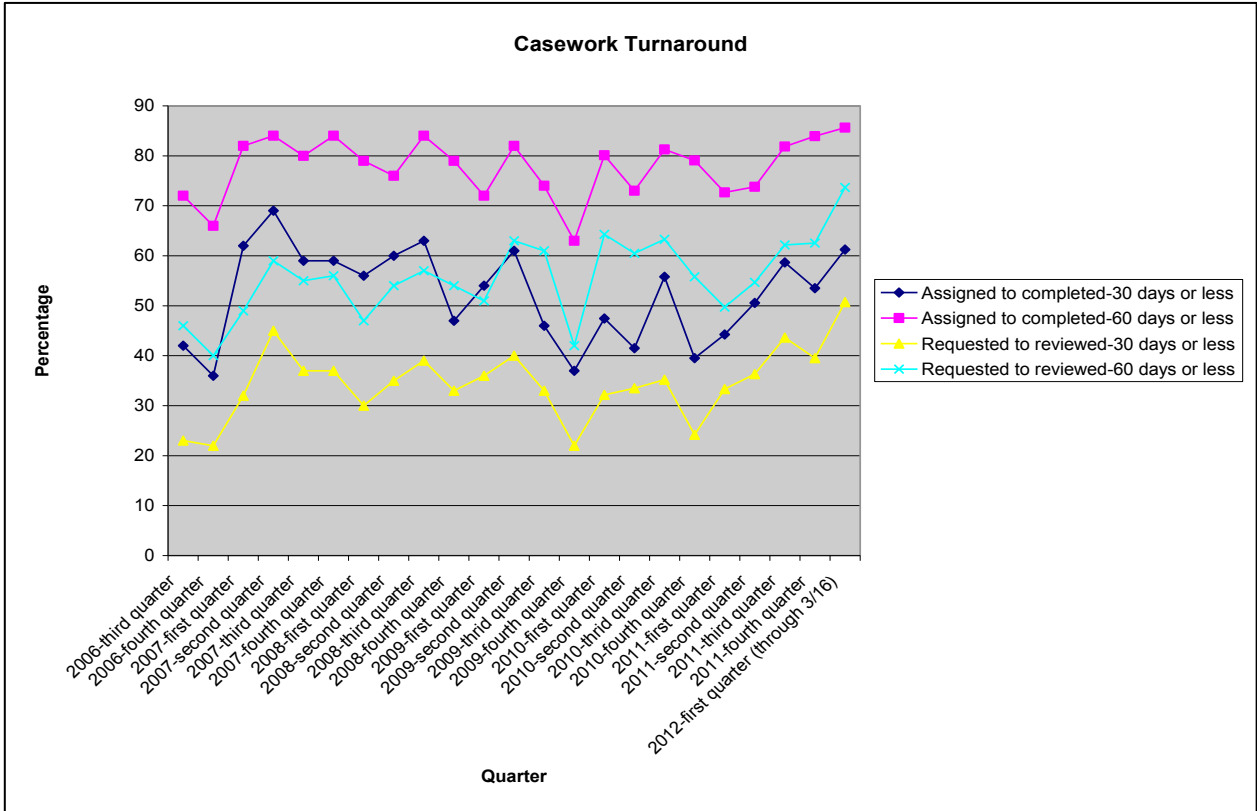
During this reporting period, 529 samples had been processed by the 14 analysts doing DNA casework which equates to approximately 15 samples per analyst per month (this calculation was based on 2.5 months rather than three months as statistics associated with this performance metric were run on March 16, 2012). This the fewest samples analyzed per analyst per month during all reporting periods and fewer than the value established at the beginning of the grant.

Due to budgetary constraints, analysts have been tasked with working fewer samples per case supplement to conserve resources. The goal of this approach is to focus on the most probative items of evidence first, and then reevaluate the need to process additional items in future supplements. Often times, this is cost-effective – the first round of testing answers the question(s) at hand and precludes the need to process the remaining items. This approach may be one explanation that sample counts went down in this reporting period.

Further, restrictions have been placed on our user agencies in terms of the number of contact DNA samples they are permitted to submit; three for property crimes and six for crimes against persons. The decrease in submissions that has resulted could be a second reason that sample counts went down in this reporting period.

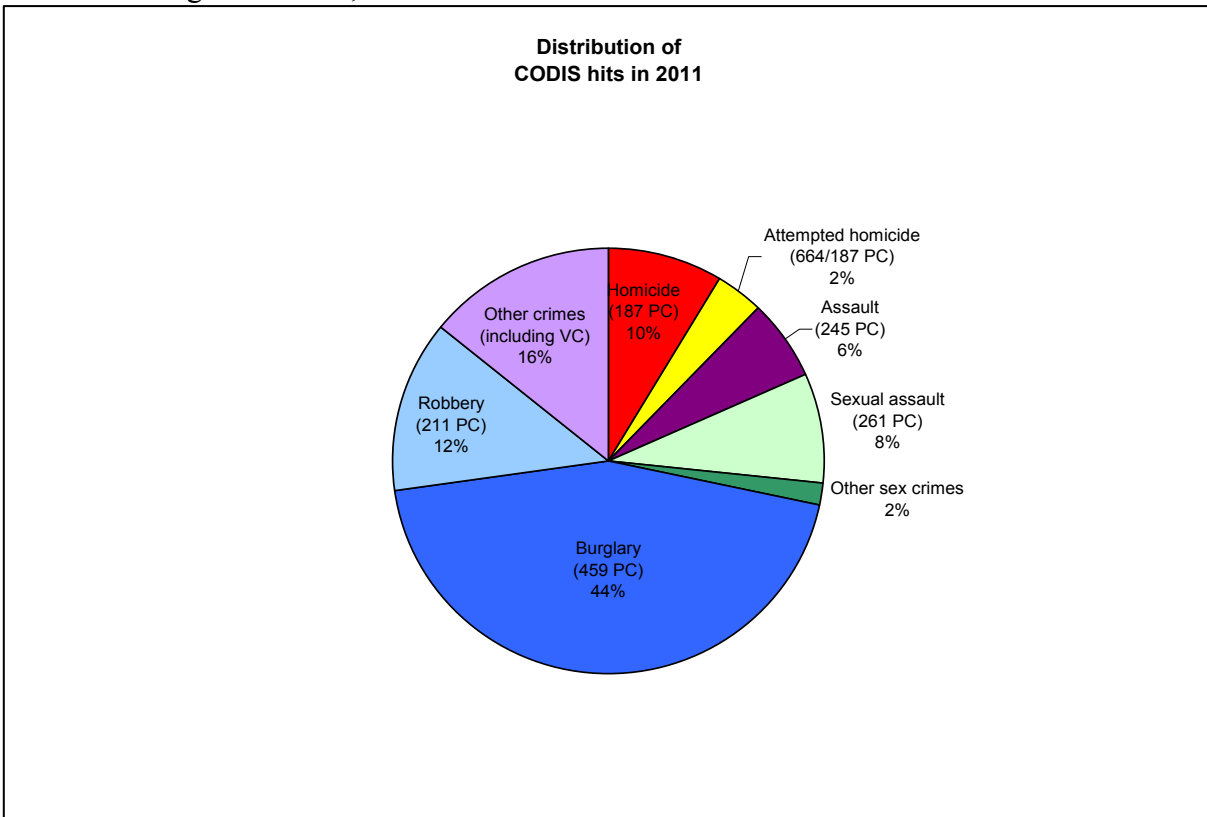
The charts and tables that follow summarize some of the performance metric trends discussed above (grant funded activities have been highlighted with an arrow where applicable):



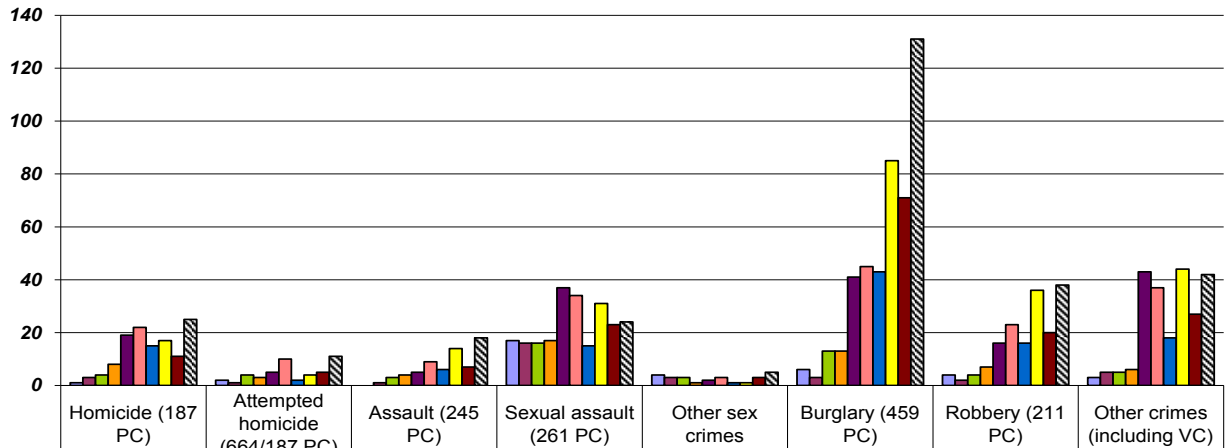


GAN activity: No grant adjustments were made during this reporting period.

CODIS activity: As a result of funding under this grant, 23 profiles have been entered into CODIS and 20 hits have been returned during this reporting period. During the entire grant cycle, 109 profiles have been entered into CODIS and 80 hits have been obtained as a result of grant funding for personnel and supplies (62 entries and 39 hits for grant-funded employees and 47 entries and 41 hits for cases using grant-funded supplies). It should be noted that several cases processed with grant-funded kits were not eligible for CODIS entry, but the profiles generated held significant probative value. The following charts summarize CODIS hits made unit-wide through March 22, 2012.



**CODIS Hits by Offense per Year
through 1998 - March 22, 2012
(2633 hits total)**



	Homicide (187 PC)	Attempted homicide (664/187 PC)	Assault (245 PC)	Sexual assault (261 PC)	Other sex crimes	Burglary (459 PC)	Robbery (211 PC)	Other crimes (including VC)
1998 to 2002	1	2	0	17	4	6	4	3
2003	3	1	1	16	3	3	2	5
2004	4	4	3	16	3	13	4	5
2005	8	3	4	17	1	13	7	6
2006	19	5	5	37	2	41	16	43
2007	22	10	9	34	3	45	23	37
2008	15	2	6	15	1	43	16	18
2009	17	4	14	31	1	85	36	44
2010	11	5	7	23	3	71	20	27
2011	25	11	18	24	5	131	38	42

FY10 Recipient Name: County of San Mateo, California

Award Number: 2010-DN-BX-K054

Award Amount: \$163,633

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: All necessary performance verification experiments will be completed.
- Goal 2: Purchase a freezer for the Forensic Biology Unit.
- Goal 3: Purchase 3 Microcentrifuges.
- Goal 4: Purchase DNA Kits (chemicals) to be used by members of the Forensic Biology DNA Unit for processing DNA type cases.
- Goal 5: Hire a Criminalist (contractor) to support the Forensic Biology Unit staff by directly engaging in handling, screening, and analyzing forensic casework evidence that may contain DNA.
- Goal 6: Hire 2 part-time Laboratory Interns (contractors) to be engaged in supporting staff member assigned to the Forensic Biology Unit.
- Goal 7: Purchase several software applications in order to maintain the flow of casework through the section

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- Goal 1: No 2010 DNA Backlog funds were used during this reporting period.
- Goal 2: No 2010 DNA Backlog funds were used during this reporting period.

- Goal 3: No 2010 DNA Backlog funds were used during this reporting period.
- Goal 4: No 2010 DNA Backlog funds were used during this reporting period.
- Goal 5: A candidate has been identified & a contract is expected to be finalized by the next reporting period.
- Goal 6: In the process of identifying potential candidates.
- Goal 7: No 2010 DNA Backlog funds were used during this reporting period

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: The San Mateo County Sheriff's Office Forensic Laboratory conducted a method validation of the laboratory's EZ1 instrument for low DNA evidence samples and is currently using this process in casework.

Goal 1 completed.

Goal 2: A Modification was submitted by the San Mateo County Sheriff's Office Forensic Laboratory requesting a change to our original application for the request of the purchase of a freezer and add the purchase of two printers. In April 2011, once the modification was approved, the San Mateo County Sheriff's Office Forensic Laboratory requested a bid from a County contracted vendor, purchased, installed, and began using two HP Color LaserJet CP6015dn printers.

Goal 2 completed.

Goal 3: In April 2011, the San Mateo County Sheriff's Office Forensic Laboratory sent out requests for bids for the purchase of the three Microcentrifuge Galaxy 16DH microcentrifuges, and purchased, installed, and began using the three microcentrifuges.

Goal 3 completed.

Goal 4: In April 2011, the San Mateo County Sheriff's Office Forensic Laboratory requested a bid from a County contracted vendor and purchased ten AmpFLSTR Identifier PCR Kits. These kits are currently being used for casework.

Goal 5: A contract was executed for one Criminalist to assist with casework in Forensic Biology/DNA. She was competency and proficiency test and is currently working casework in Forensic Biology/DNA.

Goal 6: A Modification was submitted by the San Mateo County Sheriff's Office Forensic Laboratory requesting an increase to the number of part-time Laboratory Interns from two to three. Once the modification was approved, the Laboratory interviewed and selected three candidates, conducted background investigations, and executed contracts for the three interns to assist in the Forensic Biology/DNA. By the end of this reporting period, the three interns fulfilled their contractual obligations for this grant by performing non-critical tasks such as cleaning glassware and assisting with the method validation listed in Goal 1.

Goal 6 completed.

Goal 7:

1. A Modification was submitted requesting an increase to the original amount for the THEMIS: Forensic Biology Module software update. Once the modification was approved, in April 2011, the San Mateo County Sheriff's Office Forensic Laboratory requested a bid from a vendor based on sole source requirements and purchased the software. The Forensic Biology/DNA Section met with RJ Lee (the vendor) to discuss laboratory requirements and the vendor is currently in the

process of building the module for the laboratory. The anticipated installation date is August 2011.

2. In February 2011, the San Mateo County Sheriff's Office Forensic Laboratory requested a bid from a County contracted vendor and purchased five GeneMapper ID v 3.2 software packages. The San Mateo County Sheriff's Office Forensic Laboratory conducted a performance verification of each software package and is currently using it for casework.

Goal 7 (2) completed.

Program Match:

The San Mateo County Sheriff's Office Forensic Laboratory is to report as MATCH \$29,232.84. Therefore, additional supplies ordered and received during this reporting period (from January 1 to June 30, 2011) are found on the following documentation:

<i>Vendor</i>	<i>Reference #</i>	<i>Amount</i>
Qiagen Inc.	94047036	\$ 2,890.76
Applied Biosystems	97930313	\$12,079.29
Millipore Corp	5550577	\$5,903.36
Applied Biosystems	98124849	\$8,942.34
Applied Biosystems	98229324	\$2,219.75
Serological Research SeraTec	57421105653	\$795.26
NIST Human DNA	57421105653	\$483.26
Applied Biosystems	98286453	\$1,179.19
Applied Biosystems	98312581	\$405.16
Applied Biosystems	98363458	\$1,552.89
Applied Biosystems	98373857	\$4,689.42
Applied Biosystems	98436744	\$7,951.69
Applied Biosystems	98243787	\$1,549.40

The San Mateo County Sheriff's Office Forensic Laboratory's supplies ordered and received during this grant period for our PROGRAM MATCH Funds totaled: \$50,641.77

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Goal 1 completed in previous Reporting Period.

Goal 2: Goal 2 completed in previous Reporting Period.

Goal 3: Goal 3 completed in previous Reporting Period.

Goal 4: The San Mateo County Sheriff's Office Forensic Lab purchased 10 AmpFLSTR Identifiler Kits, 10 EZ1 DNA Investigator Kits, and 2 Quantifier DUO Kits.

Goal 4 completed.

Goal 4 was completed per the laboratory's application; however, due to cost savings of \$2887.75 we will be purchasing 7 more kits.

Goal 5: One contract Criminalist completed a total of 35 forensic biology cases using 2010 Backlog DNA Grant funding.

Goal 5 completed.

Goal 6: Goal 6 completed in previous Reporting Period.

Goal 7:

1. The Forensic Biology module in Themis was built per the specifications requested by members of the forensic biology section. The module was installed and is currently being tested by personnel.
2. Goal 7 (2) completed in previous Reporting Period.

* Table 2 Performance Matrix

The number of CODIS hits exceeds the number of CODIS entries due to the fact that the CODIS hits are from CODIS entries from prior Reporting Periods and were initially unidentified.

PROGRESS REPORT 4: January 1, 2012 – March 31, 2012

Goal 1: Goal 1 completed in Reporting Period #2.

Goal 2: Goal 2 completed in Reporting Period #2.

Goal 3: Goal 3 completed in Reporting Period #2.

Goal 4: As stated in Reporting Period #3, the original goal for the purchase of kits, stated in our application, was completed. During this reporting period, the laboratory purchased an additional 7 EZ1 DNA Investigator Kits using cost savings.

Goal 4 completed.

Goal 5: Goal 5 completed in Reporting Period #3.

Goal 6: Goal 6 completed in Reporting Period #2.

Goal 7:

1. The Forensic Biology module in Themis was installed during the last reporting period and is currently in use by examiners in the Forensic Biology Section.

2. Goal 7 (2) completed in Reporting Period #3.

Goal 7 completed.

FINAL REPORT: The Sheriff's Office Forensic Laboratory's goals under this grant were to decrease the number backlogged cases and turnaround times.

Award funds were used to:

- Fund overtime for 4 examiners and 1 supervisor to perform biology casework and case reviews;
- Purchase 3 microcentrifuges and 2 printers;
- Purchase chemicals to process DNA casework;
- Fund a part-time Criminalist to perform casework and case reviews;
- Fund 3 part-time Interns to perform non-critical tasks and method validation;
- Purchase 5 full licenses for GeneMapper ID v. 3.2 software; and
- Purchase a Biology Module addition to THEMIS (laboratory information mgmt system).

At the beginning of this grant period, the number of backlogged cases was 220 cases and the turnaround time was 154 days; at the end of this grant period the number of unassigned backlogged cases was 274 and the turnaround time was 206 days.

The Forensic Biology Section completed 323 cases using grant funds during the grant period (01 October 2010 until 31 March 2012).

The overall number of backlogged DNA cases and the turnaround time increased during this grant period and the number of samples analyzed per analyst per month decreased due to three major factors:

1. A qualified DNA examiner continued to work only on a part-time basis at no more than 20 hours per week. The laboratory decided to use this half position as cost savings instead of hiring another part-time employee. This examiner resigned at the end of May 2012.

2. A qualified DNA examiner was on parental leave from December 2011 until May 2012. Although this examiner returned to the San Mateo County Sheriff's Office Forensic Laboratory in May, she chose to return as a part-time employee and, as a result, she only works approximately 32 hours per week.
3. A qualified DNA examiner was permanently transferred to another section of the Laboratory in 2009 and that position has not been replaced in Forensic Biology.

As a direct result of not filling the part-time vacancy left by an examiner only working 20 hours per week, the parental leave of the one fully trained examiner and her return to the laboratory on a decreased schedule, and the permanent transfer of one trained examiner to another section with no unit replacement, less casework was assigned and completed by the unit, leading to an increase in backlogged cases and turnaround times.

Unfortunately, since neither the permanent transfer of an examiner to another section nor the parental leave absences of two members of the unit were considered at the beginning of this grant period, we did not anticipate a slowdown in case production. In totality, the absence of these unit members greatly contribute to our increased number of backlogged cases and increased turnaround times and we anticipate this trend to continue until the unit is fully staffed.

As of June 1, 2012, the Forensic Biology Section's current staffing is as follows:

- One (1) Supervisor
- Two (2) fully trained and qualified full time examiners
- One (1) fully trained and qualified part time examiner
- Three (3) partially trained full time examiners
- One (1) fully trained and qualified part time contract criminalist
- Two (2) part time interns

All supplies were purchased, received, and put in place at the Forensic Laboratory. This has relieved the bottlenecks that were existent due to the lack of ability to use various instruments and techniques prior to their validation.

Goal 1: All necessary performance verification experiments will be completed

GOAL COMPLETED

The San Mateo County Sheriff's Office Forensic Laboratory conducted a method validation of the laboratory's EZ1 instrument for low DNA evidence samples and is currently using this process in casework.

Goal 2: Purchase a freezer for the Forensic Biology Unit.

GOAL COMPLETED

A Modification was submitted by the San Mateo County Sheriff's Office Forensic Laboratory requesting a change to our original application for the request of the purchase of a freezer and add the purchase of two printers. In April 2011, once the modification was approved, the San Mateo County Sheriff's Office Forensic Laboratory requested a bid from a County contracted vendor, purchased, installed, and began using two HP Color LaserJet CP6015dn printers.

Goal 3: Purchase 3 Microcentrifuges.

GOAL COMPLETED

In April 2011, the San Mateo County Sheriff's Office Forensic Laboratory sent out requests for bids for the purchase of the three Microcentrifuge Galaxy 16DH microcentrifuges, and purchased, installed, and began using the three microcentrifuges.

Goal 4: Purchase DNA Kits (chemicals) to be used by members of the Forensic Biology DNA Unit for processing DNA type cases.

GOAL COMPLETED

10 AmpFLSTR Identifiler PCR Kits, 2 Quantifiler DUO DNA Kits, 17 EZ1 Investigator DNA Kits were ordered. These kits were used to perform casework on backlogged samples and for method validation of the laboratory's EZ1 instrument for low DNA evidence samples.

Goal 5: Hire a Criminalist (contractor) to support the Forensic Biology Unit staff by directly engaging in handling, screening, and analyzing forensic casework evidence that may contain DNA.

GOAL COMPLETED

One contract Criminalist completed a total of 35 forensic biology cases using 2010 Backlog DNA Grant funding.

Goal 6: Hire 2 part-time Laboratory Interns (contractors) to be engaged in supporting staff member assigned to the Forensic Biology Unit.

GOAL COMPLETED

A Modification was submitted by the San Mateo County Sheriff's Office Forensic Laboratory requesting an increase to the number of part-time Laboratory Interns from two to three. Once the modification was approved, the Laboratory interviewed and selected three candidates, conducted background investigations, and executed contracts for the three interns to assist in the Forensic Biology/DNA. By the end of this reporting period, the three interns fulfilled their contractual obligations for this grant by performing non-critical tasks such as cleaning glassware and assisting with the method validation listed in Goal 1.

Goal 7: Purchase several software applications in order to maintain the flow of casework through the section.

GOAL COMPLETED

1. A Forensic Biology Module for the laboratory's information management system (THEMIS) was built per the specifications requested by members of the forensic laboratory section, the software was installed, and is in use by personnel.

2. The San Mateo County Sheriff's Office Forensic Laboratory purchased five full licenses for GeneMapper ID v 3.2 software. The software was installed and is in use by personnel.

Program Income / Match

Since the San Mateo County Sheriff's Office Forensic Laboratory is considered a Fee For Service Laboratory, \$29,232.84 Match (Recipient Share) is required. Therefore, additional supplies ordered and received during this grant period are found on the following documentation:

<i>Vendor</i>	<i>Reference #</i>	<i>Amount</i>
Qiagen Inc.	94047036	\$ 2,890.76
Applied Biosystems	97930313	\$12,079.29
Millipore Corp	5550577	\$5,903.36
Applied Biosystems	98124849	\$8,942.34
Applied Biosystems	98229324	\$2,219.75
Serological Research SeraTec	57421105653	\$795.26
NIST Human DNA	57421105653	\$483.26
Applied Biosystems	98286453	\$1,179.19
Applied Biosystems	98312581	\$405.16
Applied Biosystems	98363458	\$1,552.89
Applied Biosystems	98373857	\$4,689.42

Applied Biosystems	98436744	\$7,951.69
Applied Biosystems	98243787	\$1,549.40

The San Mateo County Sheriff's Office Forensic Laboratory's supplies ordered and received during one reporting period exceeded our match requirement and as a result we are only reporting Funds that totaled: \$50,641.77.

FY10 Recipient Name: Orange County Sheriff-Coroner Department, California

Award Number: 2010-DN-BX-K067

Award Amount: \$358,567

Final Report: GOALS AND OBJECTIVES OF PROJECT:

- Goal 1 - Decrease the turnaround time for evidence screening and the initial examination of cases by assigning laptop computers and barcode scanners to DNA analysts to use to record their notes and track evidence. This includes purchasing new printers and installing a wireless network system in the laboratory to implement these processes. We will also upgrade our DNA server to accommodate the increased volume of data and information being stored on it.
- Goal 2 - purchase basic Radio Frequency Identification (RFID) labels, printers and readers to begin exploring the possibility of using this type of identification system to track our evidence and case folders in LIMS.
- Goal 3 - purchase shelving and bins that will be used to store evidence items submitted for DNA analysis in the new walk-in freezer that is in the process of being built using 2009 DNA Backlog Reduction and Capacity Enhancement Program funds.
- Goal 4 - expand the Evidence Control Unit work area to the fourth floor.
- Goal 5 - recruit and employ a Forensic Technician for the DNA Section for a limited term of 18 months.
- Goal 6 - send four senior analysts to the Human Identification Symposium (Promega) in October, 2011.
- Goal 7 - we will analyze DNA evidence from a minimum of 30 unsolved homicide cold cases and enter qualifying profiles into CODIS.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Performance Metrics: The average number of samples analyzed per analyst per month dropped from the start of the grant period (10/01/10) to the end of this report period (12/31/10) due to a combination of reasons:

Analysts taking full week vacations at the holidays (Thanksgiving week, Christmas week, and New Year's week).

1. The validation of the Tecan HID EVOLution robot with the Prepfilers extraction system was completed during the first week of December. Two of the analysts who assisted with the validation were taken off of casework for six weeks to review the data and the final summary report prepared by the outside vendor. These analysts also began training other DNA analysts in the Tecan robot set-up and operation. Four high volume/ property crime analysts started training on the Tecan/Prepfilers extraction system in December. Their training samples were not included in the performance metric statistics.

2. One DNA analyst was taken off of casework to evaluate new collection swabs. Her experiments consisted of placing known quantities of DNA on various objects and then using cotton, polyester and the new Fitzco CEP™ (collect/eject/protect) swab to sample the DNA. The analyst extracted the swabs using phenol/chloroform clean-up, EZ-1 robots, and the Tecan/Prepfil extraction system. Her swab study samples were not included in the performance metrics.

Goal 1 - Progress: laptop computers are being evaluated.

Goal 2 - Progress: personnel from Bode Technologies provided staff from the DNA Section, the IT Department, and the Evidence Control Unit (ECU) with an overview of RFID technology and equipment. No purchases have been made yet.

Goal 3 - Progress: the new walk-in freezer is has been designed but not built. These shelves will not be purchased until the new freezer has been constructed.

Goal 4 - Progress: the Evidence Control Unit (ECU) may have found an alternate area to move into. Negotiations are underway in the department to determine if they will move into vacated rooms on the ground floor that are directly above their current office and adjacent to the main evidence receiving area. Moving into the ground floor rooms would save the lab money as full walls, a keycard reader system, and a sink are already present.

Goal 5 - Progress: a technician was selected from one of our active hiring lists and is currently in background. If he passes background then it is anticipated that he could start in February, 2011.

Goal 6 - Progress: no activity.

Goal 7 - Progress: 14 cases have been assigned and four are completed. Reagents have been purchased and 87.75 hours of overtime have been used.

One DNA profile from a zip tie from a 1993 Santa Ana PD homicide and two profiles from a second 1993 Santa Ana PD homicide have been entered into CODIS. There were no CODIS matches. In addition to these two cases, seven Santa Ana PD homicide cases that occurred between 1987 and 1989 and had only expended handgun cartridge cases as evidence were analyzed. Swabs used to sample the expended cartridge cases (~24 cartridge cases) were extracted for DNA. Insufficient DNA for analysis was recovered from each of the swabs.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Performance Metrics: The TAT (36 days) increased since the start of the grant (27 days TAT). The number of samples analyzed per analyst is still lower than the number analyzed at the start of the grant (60 samples/analyst/month) but has increased since the end of the last grant period (December 31, 2010: 47 samples/analyst/month.) The increase in TAT and the reduced number of samples analyzed is due to a combination of the following factors:

- Off-site training was attended by five of our new DNA analysts. This included an STR training class at Marshall University and Courtroom Testimony and Population Genetics classes at the California Criminalistics Institute in Los Angeles,
- DNA Lab staff have been troubleshooting performance issues with our second Universal BioRobot that we purchased last August and are trying to get on-line,
- We have been working on getting our second Tecan/Prepfil extraction system on-line for casework,

- We are continuing to validate the new 3500 Genetic Analyzer which is unlike the previous Genetic Analyzers (310 and 3130) with respect to sensitivity and resolution,
- We finalized our revised mixture interpretation guidelines so they meet the 2010 SWGDAM STR Mixture Interpretation Guideline recommendations,
- We had two senior DNA analysts promoted to supervisors during this period. One DNA analyst, who was also the CODIS Administrator, was promoted and moved to the Information Technology Section of the laboratory. We selected a replacement from the lab staff and have been training her in all of the functions of CODIS Administrator. The other DNA analyst was promoted and remains in DNA; however, he no longer does laboratory analysis of casework,
- Our DNA Technical Leader resigned and we have an Acting Technical Leader. We recently selected a new DNA Tech Lead. He is reviewing validations and training binders and will soon be up to speed with his new duties.

Goal 1 - Progress: two tablet personal computers (PCs) were ordered so they could be evaluated by the DNA staff. One tablet PC model arrived in May. This tablet PC is being used by some of the DNA analysts to evaluate whether this model would be useful in the laboratory to track evidence, record case examination notes, and schedule batches.

We purchased and received five handheld bar code scanners. All five were installed in the DNA laboratory evidence examination areas.

We received and installed the server upgrade that was necessary to accommodate the increased volume of DNA data and information being stored on our dedicated DNA (Q:) drive.

In our initial budget narrative, we planned to purchase a replacement back-up power supply for the PCR area. The back-up power supply purchase was moved to the 2009 DNA Backlog Reduction/Capacity Enhancement Program grant when the cost of our walk-in freezer and redundant refrigeration project came in under budget. The back-up power supply units will now be purchased using 2009 program grant funds.

The funds that we planned to spend on the back-up power supply will be used to purchase a removable disk back-up system for DNA instrumental data and laboratory case management system. Electronic data generated from DNA casework and our analytical instruments is increasing dramatically, as is the required time for retaining these records for discovery and prosecution. The purchase of a removable disk back-up system replaces an aging and unreliable tape back-up procedure. Conversion to removable hard disks will allow for quicker back-ups, quicker restore times, more rapid location of files and more redundant storage of the case data.

Many of the hard drives on our DNA analysts' desktop computers are starting to fail. We intend to eventually replace all of the desktop computers with the laptop or tablet PCs. While we are in the process of evaluating and selecting a laptop or tablet PC that meets all of our needs – from note taking in the laboratory to data analysis at our desks - we purchased ten replacement hard drives to keep our DNA analysts' computers operating.

One copy of Adobe Acrobat X-Pro (version 10) was purchased for the DNA Grant manager to use when preparing future grant applications.

Goal 2 - Progress: no additional activity.

Goal 3 - Progress: the new walk-in freezer will be built starting in July, 2011. We will order the shelving units approximately half way through the project so they will be ready to install

after the freezer is completed. The estimated completion date for the freezer project is the end of September, 2011.

Goal 4 - Progress: negotiations were successful and our Evidence Control Unit (ECU) will be able to move into the empty rooms on the ground floor that is directly about their current office. The OC Sheriff's Department Research and Development Division is assessing the space and determining the costs of moving walls, reinforcing the front counter area, replacing the floor, and rewiring the overhead space for computer network cables. Estimated costs to convert the ground floor rooms to an Evidence Control office and storage area have ranged from \$15,000 to \$22,000.

Goal 5 - Progress: a Forensic Technician was hired and started in the DNA Section on April 15, 2011. He has been learning and performing the DNA Section Technician duties which include cleaning laboratory equipment and glassware, calibration of pipettes and thermal cyclers, ordering and stocking DNA reagents and supplies, preparing routine chemical solutions, and making sexual assault and buccal collection kits.

Goal 6 - Progress: no activity

Goal 7 - Progress: 6 additional unsolved homicide cold cases were submitted to the laboratory by the Santa Ana Police Department. We were able to use available overtime funds and reagents to work these cases as well as the 30 cold cases initially identified.

During this report period 28 cases were analyzed and reports issued to the requesting agency. Ten DNA profiles were entered into CODIS and one profile matched a convicted offender standard at the state (SDIS) level. The cold hit was from a 1995 Santa Ana PD homicide. Four cases are still in the process of being analyzed.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Performance Metrics: The TAT (39 days) increased since the start of the grant (27 days TAT) and since the end of the last reporting period (36 days TAT). The number of samples analyzed per analyst is still lower than the number analyzed at the start of the grant (60 samples/analyst/month) and has remained the same as the last grant period (June 30, 2011: 52 samples/analyst/month.) The increase in TAT and the status quo in the number of samples analyzed per analyst were due to the following factors:

- Five of our high volume/property crime DNA analysts are currently training in DNA typing methods. The amount of time devoted to their typing training increased during this progress report period so they could qualify to perform DNA typing on casework samples by the beginning of 2012. Because of their increased focus on training, property crime case TAT increased from 38 days to 47 days. Violent crime casework TAT remained the same at 35 days. This resulted in an overall casework TAT increase of three days since the end of the last reporting period.
- Senior DNA staff has been mentoring the five trainees, reviewing their training exercises, and also lecturing them on different DNA topics such as mixture interpretation, POPSTATS, CODIS entry, and report writing. Time devoted to the training of the new staff has caused the number of samples extracted per analyst to stall at 52 and the TAT to slightly increase.

Goal 1 – We were going to purchase individual laptop computers for each DNA analyst and supervisor. The analysts were going to use the laptops in the laboratory to take notes and move evidence items and then connect them to a docking station on their desks to use for word processing, LIMS access, and other duties requiring computer access. The

DNA Supervisors and the IT Supervisor revamped this plan and decided to replace and upgrade the DNA analysts' desktop computers and monitors and install additional computer work stations in the laboratory. The cost of the project (~\$60,000) remained the same and a purchase order was issued in November, 2011. The computers and monitor were delivered in December, 2011. This project and funding request was transferred, through a GAN that was approved on December 15, 2011, to the 2009 DNA Backlog Reduction/Capacity Enhancement Program grant to help close out this grant on time.

We purchased two tablet laptop computers to evaluate when we were deciding whether it was best to purchase laptop computers for the DNA analysts or upgrade and replace their desktop computers. Though we decided not to go the route of issuing each analyst their own laptop, we kept the tablet laptops for DNA Section use. They are currently being used to inventory and reconcile evidence locations and also serve as mobile workstations.

We purchased a removable disk back-up system and a replacement data server for the DNA instrumental data and laboratory case management system. Electronic data generated from DNA casework and our analytical instruments is increasing dramatically as is the required time for retaining these records for discovery and prosecution. The purchase of a removable disk back-up system and data server replaced an aging and unreliable tape back-up procedure. Conversion to removable hard disks will allow quicker back-ups, quicker restore times, more rapid location of files and more redundant storage of the case data.

- Goal 2 – Our IT Supervisor has been researching the best equipment to purchase and the best approach for implementing RFID into the Evidence Control Unit (ECU) and the DNA Section. RFID technology will be utilized in the Evidence Control Unit and DNA Section to accurately track of all the DNA evidence. This new technology will allow us to be more efficient in tracking evidence within our multi-story laboratory and will allow laboratory staff to easily check-in/check-out groups of evidence. RFID will allow audits of evidence locations (entire room scans) and will enable us to move multiple items all at once rather than serially with a barcode scanner. This will save time and money by reducing the time searching for evidence. Equipment has not yet been ordered but purchase requests are being prepared.
- Goal 3 – Our Evidence Control Supervisor and one of our DNA analysts have been meeting with a representative of an evidence storage company to design the layout of the shelving that will go in our new freezer. They have also been researching the different types of storage bins that are available to store bulk evidence, various sizes of crime scene evidence, and DNA extracts that are being stored long term. Quotes have been received and are being reviewed, and plans are still being revised to best meet our needs.
- Goal 4 – Our Evidence Control Unit (ECU) is in the process of expanding into an area on the ground floor directly above their current offices. The new ECU work area was unused office space that requires increased security and some reinforced wall structure before ECU personnel can use it since forensic evidence will be received and stored in this area. Most of the renovation has been completed and network cables and phone lines have been installed. The next step will be to install modules, office furniture, and shelves. The last step will be to install the security keycard locks on the doors.

Goal 5 – We filled the Forensic Technician position in April, 2011 but the employee promoted to a Forensic Scientist and transferred to another section of the laboratory in July, 2011.

We recruited and hired a new Forensic Technician in November, 2011. This person is currently in background and we expect to fill the position in March, 2012.

Goal 6 – We sent three DNA staff - our CODIS Administrator, the DNA Technical Leader, and one of our supervisors - to the Human Identification Symposium (Promega) in October, 2011.

Goal Completed

Goal 7 – Four backlogged cold cases were analyzed during this reporting period and reports were issued to the requesting agencies. From these four cases we entered five DNA profiles into CODIS which resulted in two cold hits at the state (SDIS) level. At the end of this report period there were no backlogged cases waiting for analysis.

Summary: a total of thirty-six backlogged cases were analyzed using 309 hours of overtime. \$21,181 was spent on analyst overtime and \$15,334 was spent on supplies (Identifiler typing kits, Qiagen EZ-1 Investigator extraction kits, Genetic Analyzer polymer, capillary arrays, and buffer, and 96-well plate septa) to analyze 36 backlogged cases.

Goal Completed

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Performance Metrics: The TAT (32 days) is still higher than the TAT at the start of the grant (27 days TAT) but has decreased since the end of the last reporting period (39 days TAT).

The number of samples analyzed per analyst is lower than the number analyzed at the start of the grant (60 samples/analyst/month) and has decreased slightly since the last grant period (at the end of June 2011: 52 samples/analyst/month; at the end of this report period: 50 samples/analyst/month.)

The decrease in TAT from the last progress reporting period and the slight decrease in the number of samples analyzed per analyst were due to the following factors:

- Five of our new high volume/property crime DNA analysts were training in DNA typing methods at the end of 2011. They completed their training between January 1 and March 30, 2012. With their final training module completed, they are now able to work on property crime cases from start to finish. They do not complete a case as fast as our experienced analysts, but having five additional analysts who are now able to assist with the genetic analyzers, data analysis and report writing steps has helped to decrease our TAT. The senior DNA staff that were mentoring the five trainees and reviewing their training was also able to return to casework full time by the end of March 2012 which also helped to decrease our TAT.

- We lost one experienced DNA analyst due to his promotion and transfer to another section of the laboratory in the beginning of June 2012.

Goal 1 – We were going to purchase individual laptop computers for each DNA analyst and supervisor. The DNA Supervisors and the IT Supervisor revamped this plan and replaced and upgraded the DNA analysts' desktop computers and monitors and installed additional computer work stations in the laboratory. The cost of the computers and monitors was transferred to the 2009 DNA Backlog Reduction/Capacity Enhancement Program grant to help close out that grant on time.

The new desk top computers and dual monitors were purchased at the end of 2011 and were installed at the desks of each DNA analyst during this report period. The computers have the most recent versions of Windows and GeneMapper IDX installed on them. The faster computers, improved software, and dual monitors are allowing our DNA analysts to review the data coming off of the genetic analyzers faster, interpret the data and mixtures more accurately, and write case reports more efficiently. Since the cost of the new computers and monitors (~\$60,000) was transferred to the 2009 DNA Backlog Reduction/Capacity Enhancement Program Grant, we used part of the funds to replace three of our 10 year old thermal cyclers (\$23,000). The thermal cyclers were purchased, performance checked, and placed into service during this report period. We used the remainder of the funds (\$27,000) to install the uninterruptable power supplies (UPS) and battery packs that were purchased using 2009 DNA Backlog Reduction/Capacity Enhancement Program Grant funds and the 2009 DNA Unit Efficiency Improvement Grant funds. The installation of the UPS and battery packs was completed during this report period. (Redistribution of grant funds for these two projects was approved under GAN #004 that was approved January 11, 2012).

Several new printers were purchased during this report period. Three of the printers replaced old printers in the DNA Supervisor's offices and the rest were installed in the office module area for analysts to use to print electropherograms and reports.

We are currently reevaluating whether we want to install a wireless network system in the DNA Laboratory and issue barcode scanners to each DNA analyst.

- Goal 2 – our IT Supervisor is still evaluating how he would like to implement RFID in the laboratory's evidence control unit (ECU) and DNA laboratory. No activity on this goal.
- Goal 3 – the new walk-in freezer was completed at the end of 2011. A final bid was accepted to purchase shelving for the new freezer and also the storage shelves for the new Evidence Control Unit (ECU) area on the first floor. The cost of all of the shelving for both areas came in under budget. The difference between the estimated and actual shelving costs will allow us to purchase an upgraded temperature controller that is needed to ensure long term, stable temperatures inside the new freezer. The need for a new and different type of temperature controller was realized after the freezer was built and extreme temperature variations were observed. A budget modification GAN will be submitted to add the cost of the new temperature controller (\$7,850).
- Goal 4 – We are almost done with the Evidence Control Unit (ECU) expansion on the first floor. The new flooring and keycard locks were installed. The module walls and office furniture are currently in the bid process. The bid process should have been completed by now but there was a mixture up between the furniture order for this area and another laboratory area and the bid process had to be restarted. The shelving for the ECU area was discussed in Goal 3. New barcode and laser jet printers were ordered for this area and will be installed once the furniture arrives.
- Goal 5 – A new Forensic Technician started in the DNA Section on May 4, 2012. She just completed her training and is performing many of the maintenance, calibration, and cleaning duties in the DNA Laboratory which has allowed the DNA analysts who were performing these activities to return to casework and analytical procedures.

Goal 6 – We sent three DNA staff - our CODIS Administrator, the DNA Technical Leader, and one of our supervisors - to the Human Identification Symposium (Promega) in October, 2011. Goal Completed

Goal 7 – Summary: a total of thirty-six backlogged cases were analyzed using 309 hours of overtime. \$21,181 was spent on analyst overtime and \$15,334 was spent on supplies (Identifiler typing kits, Qiagen EZ-1 Investigator extraction kits, Genetic Analyzer polymer, capillary arrays, and buffer, and 96-well plate septa) to analyze these 36 cases. Goal Completed

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Performance Metrics: The TAT is still higher than the TAT at the start of the grant (27 days TAT) but remained constant over the year (2012) at 32 days TAT. We do not expect that value to decrease until new scientists are hired or transferred into the DNA Section to replace the three forensic scientists who were promoted to supervisors and removed from DNA Section casework between December, 2010 and June, 2012.

One forensic scientist transferred into the DNA Section from the Controlled Substances Section in October, 2012 and is in training. We do not expect this new analyst to have an impact on the DNA Section casework statistics until she is at least halfway through her training which will be sometime this summer.

The number of samples analyzed per analyst is still lower than the number analyzed at the start of the grant (60 samples/analyst/month) but is slowly increasing back up. At the end of this report period the average number of samples analyzed per analyst per month was 56. We expect this number to increase once our new DNA analyst completes her training.

Goal 1 – We completed the installation of the uninterruptable power supplies (UPS) and battery packs that were purchased using 2009 DNA Backlog Reduction/Capacity Enhancement Program Grant funds and the 2009 DNA Unit Efficiency Improvement Grant funds during the last reporting period. During this reporting period, the UPS system was connected to our Tecan extraction robots (2), EZ-1 extraction robots (3), Universal BioRobot liquid handling systems (2), thermal cyclers (5), the 3500 and 3130 Genetic Analyzers, and the LIMS servers that support DNA Manager and LIMS functions for the DNA Section.

The purchase requisitions for the computer hardware to complete the expansion and upgrade of workstations in the DNA laboratory, plus new printers for the DNA modules area and the Evidence Collection Unit, were submitted to our purchasing bureau in August, 2012. Due to delays that have never been fully explained to us in the crime laboratory these requisitions were held and not put out to bid until December, 2012. Approximately half of the items were purchased in December, 2012 and were received on January 11, 2013. The bid process to purchase the remainder of the items was completed on January 11, 2013 and the equipment is expected to be in the lab by the end of January, 2013. Items purchased include black and white, color, and barcode printers for the DNA laboratory, the DNA module area, and the Evidence Control Unit. Also included were four new laptop computers to be used for group training and audits and wireless terminals for the DNA laboratory. IT personnel will install the computer hardware as it arrives.

The amount of time it took to install and hook up instrumentation to the UPS system and the delay in purchasing the computer hardware by our purchasing bureau has

resulted in a large portion of the grant funding not being spent until December, 2012-January, 2013. Our DNA Section goal is to still close-out this grant by March 31, 2013.

- Goal 2 – RFID barcode readers, a data collection terminal, and handheld RFID readers were recently purchased. We are waiting for the items to be delivered. The equipment was selected and a purchase requisition submitted in August, 2012; however, due to unexplained delays in our purchasing bureau, this equipment did not go out to bid until December, 2012. Delivery is expected by the end of January, 2013.
- Goal 3 – An upgraded temperature controller needed to ensure long term, stable temperatures inside the new DNA freezer was purchased. A budget modification GAN was submitted and approved to add the cost of the new temperature controller (\$7,850). The shelving for the new freezer was received and installed along with new storage bins that are used to organize evidence items and DNA extracts. Goal Completed
- Goal 4 – The Evidence Control Unit (ECU) expansion to a new area on the first floor was completed and personnel began working from this area on September 13, 2012. All of the modules, office furniture, and new shelving for evidence storage was received and installed. The only items still on backorder are some work tables and cabinets that match the office furniture. New barcode and laser jet printers were ordered (see Goal 1) and will be installed as they arrive.
- Goal 5 – The Forensic Technician hired in May, 2012 completed her training and provides support to the DNA Section by handling the following duties: purchasing, maintaining reagent and supply inventories, performing instrument and equipment calibrations, reagent preparation, and general laboratory housekeeping.
Goal Completed.
- Goal 6 – We sent three DNA staff - our CODIS Administrator, the DNA Technical Leader, and one of our supervisors - to the Human Identification Symposium (Promega) in October, 2011. Goal Completed
- Goal 7 – Summary: a total of thirty-six backlogged cases were analyzed using 309 hours of overtime. \$21,181 was spent on analyst overtime and \$15,334 was spent on supplies (Identifiler typing kits, Qiagen EZ-1 Investigator extraction kits, Genetic Analyzer polymer, capillary arrays, and buffer, and 96-well plate septa) to analyze these 36 cases.
Goal Completed

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Performance Metrics: The TAT for January 1, 2013 – March 31, 2013 is 23 which is less than the TAT at the start of the grant (27 days TAT). The number of samples analyzed per analyst during this period was 56. This value is still lower than the number of samples analyzed at the start of the grant (60 samples/analyst/month) but has increased since the end of 2010 and has remained steady at 56 samples/analyst/month since the July-December 2012 report period.

- Goal 1 – All of the computer equipment that was needed to complete the expansion and upgrade of the workstations in the DNA Laboratory, plus new printers for the DNA module area and the Evidence Control Unit arrived in January, 2013 and have been installed. Goal Completed
- Goal 2 – The RFID barcode readers, a data collection terminal, RFID printers, and handheld RFID readers were delivered in January, 2013 and are with the Information

Technology (IT) staff. They will begin incorporating RFID technology into the Evidence Control Unit and DNA Section of the laboratory. Goal Completed

- Goal 3 – An upgraded temperature controller needed to ensure long term, stable temperatures inside the new DNA freezer was purchased and installed in 2012. A budget modification GAN was submitted and approved on April 2, 2013 to move this purchase to the 2011 DNA Backlog Reduction Program grant because of a financial coding error. The shelving for the new freezer was received and installed along with new storage bins to organize evidence items and DNA extracts stored short term. Goal Completed
- Goal 4 – The Evidence Control Unit (ECU) expansion to a new area on the first floor has been completed and personnel began working in this area on September 13, 2012. Additional work tables and cabinets and new barcode and laser jet printers were received in January, 2013. All items have been installed. Goal Completed
- Goal 5 – The Forensic Technician hired in May, 2012 continues to provide support to the DNA Section by performing the following duties: purchasing, maintaining reagent and supply inventories, performing instrument and equipment calibrations, reagent preparation, and general laboratory housekeeping. She also assists the Evidence Control Unit when they are short staffed by logging in and delivering DNA evidence to the analysts. Her salary and fringe benefits costs were moved to the 2012 DNA Backlog Reduction Grant on April 1, 2013. Goal Completed
- Goal 6 – We sent three DNA staff - our CODIS Administrator, the DNA Technical Leader, and one of our DNA Supervisors - to the Human Identification Symposium (Promega) in October, 2011. Goal Completed
- Goal 7 – No cases were analyzed, no DNA profiles were entered into CODIS, and there were no new CODIS hits during this report period. Goal Completed

FINAL REPORT:

Performance Metrics: The TAT for October 1 – March 31, 2013 was 30 days which is still higher than the TAT at the start of the grant (27 days TAT). The number of samples analyzed per analyst for October 1 – March 31, 2013 was 56. This value is still lower than the number of samples analyzed at the start of the grant (60 samples/analyst/month) but has increased since the end of 2010 and has remained steady at 56 samples/analyst/month since the July-December 2012 report period.

Goal 1 - Decrease the turnaround time for evidence screening and the initial examination of cases by assigning laptop computers and barcode scanners to DNA analysts to use to record their notes and track evidence. This includes purchasing new printers and installing a wireless network system in the laboratory to implement these processes. We will also upgrade our DNA server to accommodate the increased volume of data and information being stored on it.

We were going to purchase individual laptop computers for each DNA analyst and supervisor. The DNA Supervisors and the IT Supervisor revamped this plan and ended up replacing and upgrading the DNA analysts' desktop computers and monitors and installing additional computer work stations in the laboratory. The cost of the desktop computers and monitors was transferred to the 2009 DNA Backlog Reduction/Capacity Enhancement Program grant to help close that grant on time.

Since the cost of the new computers and monitors was transferred to the 2009 DNA Backlog Reduction/ Capacity Enhancement Program Grant, we reallocated a portion of

those funds to replace three of our ten year old thermal cyclers. The thermal cyclers were purchased, performance checked, and placed into service during the January – June, 2012 report period.

Grant funds were used to install the uninterruptable power supplies (UPS) and battery packs purchased using 2009 DNA Backlog Reduction/Capacity Enhancement Program Grant funds and 2009 DNA Unit Efficiency Improvement Grant funds. The installation of the UPS and battery packs and connection to critical DNA laboratory equipment was completed during the July-December, 2012 report period.

We purchased two tablet and four laptop computers. These were not assigned to our analysts for documenting evidence examinations and screening results but are used by DNA personnel for webinars, note taking during internal and external DNA audits, group training, and preparing and giving presentations during study groups, workshops, and meetings. Instead of purchasing laptops and assigning one to each analyst, we increased the number of computer workstations and upgraded all of the workstations in the laboratory. The work stations include new CPUs and monitors that are mounted on the wall to free up bench space, additional barcode scanners, black and white plus label printers, and two wireless units so DNA analysts can connect to the network anywhere in the laboratory. Installation of the new workstations and the wireless system allows analysts to access the laboratory network, LIMS, and DNA Manager applications in the laboratory the same as if they were at their desks. This has expedited casework as analysts do not have to return to their desks to schedule batches, review quant results, or QC runs as they come off of the Genetic Analyzers.

We purchased a removable disk back-up system and a replacement data server for the DNA instrumental data and laboratory case management system. The quantity of electronic data generated from DNA casework and our analytical instruments has increased dramatically. The time period required for retaining these records for discovery and prosecution has extended as well. The purchase of a removable disk back-up system and data server replaced an aging and unreliable tape back-up procedure. The conversion to removable hard disks has allowed quicker back-ups, quicker restore times, more rapid location of files and more redundant storage of the case data. We used grant funds to purchase “Vision Solutions” software, Delphi programming software, and Microsoft Windows Server software as well as network switches and 4-port gigabit network adapters to support this project.

During the last budget modification a document scanner purchase was moved to this grant from the 2011 DNA Backlog Reduction Program grant. It will be used to scan reports and casework notes to help us transition from paper case files to electronic case files. The electronic files and reports will be able to be accessed by investigators and prosecutors at their convenience using the Work Request and Case Status (WRCS) website rather than having to wait for clerical to send reports to them by mail or fax.

Goal 2 - purchase basic Radio Frequency Identification (RFID) labels, printers and readers to begin exploring the possibility of using this type of identification system to track our evidence and case folders in LIMS.

Now that our RFID equipment has arrived, our IT Staff is planning their approach for implementing RFID into the Evidence Control Unit (ECU) and the DNA Section. RFID technology will be utilized to accurately track all DNA evidence. This technology will allow us to be more efficient in tracking evidence items throughout our multi-story

laboratory and will allow the Evidence Control Staff to easily check-in/check-out groups of evidence items. RFID will allow future audits of evidence locations (entire room scans) and will facilitate moving multiple items at one time rather than serially with a barcode scanner.

Goal 3 - purchase shelving and bins that will be used to store evidence items submitted for DNA analysis in the new walk-in freezer that is in the process of being built using 2009 DNA Backlog Reduction and Capacity Enhancement Program funds.

The new walk-in freezer was completed in November, 2011 and shelves were purchased for it using funds from this grant. Storage bins were purchased using 2011 DNA Backlog Reduction Program Grant funds to organize biological evidence and DNA extracts that are stored short term in the DNA Section.

Goal 4 - expand the Evidence Control Unit work area to the fourth floor.

The laboratory's Evidence Control Unit (ECU) expanded into an area on the ground floor directly above their basement offices. The new ECU work area was unused office space that required increased security such as reinforced wall structure, thick Plexiglas windows installed between the vestibule and receiving counter, and keycard readers and door locks since forensic evidence is received and stored in this area. The renovation included removing old partitions and flooring, installing new network cables and phone lines, installing new flooring and modular workstations, and purchasing office furniture, work tables, storage cabinets, and shelves. Since ECU personnel are still working in the basement offices we needed to purchase additional computers, monitors, barcode printers, and other multi-use printers for the new first floor work area. The staff moved into this area on September 13, 2012. The first floor ECU area is used for the short term storage of evidence while ECU personnel are logging evidence in and releasing it back to the police agencies and the basement area is used to store evidence for longer periods until the agencies can arrange to pick up their evidence after it has been analyzed.

Goal 5 - recruit and employ a Forensic Technician for the DNA Section for a limited term of 18 months.

We filled the Forensic Technician position in April, 2011 but the employee promoted to a Forensic Scientist and transferred to another section of the laboratory in July, 2011. We recruited and hired a new Forensic Technician in November, 2011. The second technician started in the DNA Section on May 4, 2012. She does the maintenance, calibration, and cleaning duties in the DNA Laboratory which has allowed the DNA analysts who were performing these activities to return to analyzing casework and performing analytical procedures. Due to a retirement and a long term illness with a staff member in the Evidence Control Unit (ECU), this Forensic Technician has been assisting ECU 3-4 hours a day since December, 2012 by logging in DNA evidence and delivering it to the analysts. The salary and fringe benefits for this analyst will be paid using 2012 DNA Backlog Reduction Program Grant funds starting April 1, 2013.

Goal 6 - send four senior analysts to the Human Identification Symposium (Promega) in October, 2011. We sent three DNA staff - our CODIS Administrator, the DNA Technical Leader, and one of our supervisors - to the Human Identification Symposium (Promega) in October, 2011

Goal 7 - we will analyze DNA evidence from a minimum of 30 unsolved homicide cold cases and enter qualifying profiles into CODIS. We analyzed evidence from 36 cold cases using 309 hours of analyst overtime and supplies purchased using funds from this grant.

Eighteen DNA profiles from twelve cases were entered into CODIS resulting in three SDIS cold hits and suspect identifications.

FY10 Recipient Name: Contra Costa County, California

Award Number: 2010-DN-BX-K127

Award Amount: \$206,267

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal #1: The goal of the project is to increase case throughput via the maintenance funding for two grant-funded dedicated DNA analysts to screen for DNA evidence and perform DNA typing using the existing methods in the Biology Unit. The grant funded DNA analysts will be dedicated to DNA casework. *As a result, the case throughput capacity should increase and turnaround times should decline.* Based on a two year average (October 08 to October 10) the turnaround time for a Forensic Biology Unit request is 236 days. The breakdown for the three Forensic Biology Unit request types are: DNA specific requests 273 days, Preliminary Screenings 222 days and Sexual Assault Evidence Collection Kit Processing 142 days.

Goal #2: Each of the two grant-funded DNA analysts will increase the Forensic Biology Unit's overall case output by a minimum of 20 case requests (an estimated 46 forensic DNA samples) during the grant period.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1 - Progress Oct-Dec 2010: The turnaround time for the Forensic Biology Unit actually increased during this first reporting period to 370 days. This increase is due to the fact that approximately 50% of the total cases completed were in an "aged backlog" and ranged from 1,482 to 231 days old. The completion of these "aged" cases adversely adds to the turnaround time, however, by removing them we decrease the overall volume of older cases. Once these older cases are removed the turnaround time should improve, but these spikes are attributed to cases of significant age. During this award period our backlog decreased from 192 to 180, a total reduction of 12 cases. We will continue to work down our aged backlog in an effort to meet our goal, and increase our throughput capacity. Another DNA analyst has recently completed their competence as has begun casework, which further adds to our throughput capabilities. Recent validation of robots for sample set-up will also help to increase our case throughput.

Goal #2 - Progress Oct-Dec 2010: During this 3 month reporting period, no grant funds have been drawn down on the FY 2010 award, therefore, there is no activity to report.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal #1 Progress Jan-June 2011: The turnaround time for the Forensic Biology Unit was reduced from 370 days last reporting period to 288 days, which is still slightly higher than the original 236 day turn around time that was based on a two year average. The turn around time continues to vary due to the fact that our "aged backlog" has such a large age range. During this award period our backlog decreased from 180 to 170, a total reduction of 10 cases. We will continue to work down our aged backlog in an effort to meet our goal, and

increase our throughput capacity. One DNA analyst is in training and with this addition to our staff we will continue to make progress toward our capacity goals.

Goal #2 Progress Jan-June 2011: During this six month reporting period, one grant funded DNA analyst completed 12 cases (which included 37 forensic DNA samples) and the second grant funded DNA analysts completed 8 cases (which included 49 samples). To date, a total of 20 cases have been completed and 86 forensic DNA samples have been produced. Our goal of completing a minimum of 20 cases per analyst is well underway. The estimate of 46 forensic DNA samples has been well exceeded by our completion of 86 samples.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal #1 Progress July-Dec 2011: The turnaround time for the Forensic Biology Unit was reduced from 370 days to 288 in reporting period #2 and has now increased to 305 days, which is higher than the original 236 day turn around time that was based on a two year average. The turn around time continues to vary due to the fact that our “aged backlog” has such a large age range. During this award period our backlog decreased from 192 (original value) to 190, a total reduction of 2 cases. We will continue to work down our aged backlog in an effort to meet our goal, and increase our throughput capacity. Our aged backlog now has 73 cases older than 365 days. One DNA analyst is in training and with this addition to our staff we will continue to make progress toward our capacity goals.

Goal #2 Progress July-Dec 2011: During this six month reporting period, one grant funded DNA analyst completed 7 cases (which included 20 forensic DNA samples) and the second grant funded DNA analysts completed 7 cases (which included 20 samples). To date, a total of 34 cases have been completed and 126 forensic DNA samples have been produced. Our goal of completing a minimum of 20 cases per analyst is well underway (analyst #1 completed 19 cases and analyst #2 completed 15 cases). The estimate of 46 forensic DNA samples has been well exceeded by our completion of 126 samples.

PROGRESS REPORT 4: January 1, 2012 – March 31, 2012

Goal #1 Progress Jan-March 2012: The turnaround time for the Forensic Biology Unit was reduced from 370 days (based on a two year average) to 288 in reporting period #1, increased to 305 days in reporting period #2, then was reduced to 236 days in reporting period #3, and continued declining to 219 days in reporting period #4, the lowest over the lifetime of the grant. The turn around time continues to vary due to the fact that our “aged backlog” has such a large age range. Our aged backlog now has only 77 cases older than 365 days. During this award period 21 cases were completed, 85 samples were processed and our overall backlog remained steady at 191 cases. We will continue to work down our aged backlog in an effort to meet our operational goals, and increase our throughput capacity. One DNA analyst, currently in training, will be a welcomed addition to our DNA Unit as we continue to make progress toward our capacity goals.

Goal #2 Progress Jan-March 2012: During this three month reporting period, one grant funded DNA analyst completed 5 cases (which included 13 forensic DNA samples) and the second grant funded DNA analysts completed 5 cases (which included 22 samples). To date, a total of 44 cases have been completed and 161 forensic DNA samples have been produced. Our goal of completing a minimum of 20 cases per analyst has been achieved (analyst #1 completed 24 cases and analyst #2 completed 20 cases). The estimate of 46 forensic DNA samples has been well exceeded by our completion of 161 samples.

FINAL REPORT:

Goal #1 Final Report: With the addition of the two NIJ grant funded analysts dedicated to DNA casework, the Biology/DNA Unit was able to increase throughput and complete 19 more cases during this 18 month award period than in the previous 18 month period. The turnaround time for the Forensic Biology Unit was reduced from 370 days (based on a two year average) to 288 in reporting period #1, increased to 305 days in reporting period #2, then was reduced to 236 days in reporting period #3, and continued declining to 219 days in reporting period #4, the lowest over the lifetime of the grant. However, the turn around time continues to vary due to the fact that our “aged backlog” has such a large age range. Our aged backlog has only 77 cases now older than 365 days.

The number of samples analyzed per analyst per month did reflect a drop from 8 at the beginning of the award period to 4 at the end of the award period. This decline can be attributed to the fact that our lab staff have collectively been working to meet our new accreditation criteria as we work to become ISO compliant in 2012. In addition, the laboratory staff including the DNA analysts have been involved with the preparation and planning of our new laboratory, which we should move into this summer. However, the two NIJ grant funded analysts dedicated their time to casework and recorded the highest numbers of cases completed during the funded award period.

Goal #2 Final Report: At the completion of this grant, a total of 44 cases have been completed and 161 forensic DNA samples have been produced by the two NIJ grant funded analysts. We met our goal of completing a minimum of 20 cases per analyst (analyst #1 completed 24 cases and analyst #2 completed 20 cases). The estimate of 46 forensic DNA samples has been well exceeded by our completion of 161 samples. In addition to the 44 cases completed, 25 profiles were uploaded to CODIS and 29 CODIS Hits were generated. By the completion of this award period all grant funds were consumed.

FY10 Recipient Name: City And County of San Francisco, California

Award Number: 2010-DN-BX-K124

Award Amount: \$320,274

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective 1: Increase casework turnaround time by increasing the efficiency of the instrumentation and analysis software used for DNA casework (see also Objective 2).

Upgrades in efficiency will allow casework to be completed in a more efficient manner by decreasing the instrument use and time per case/run, allowing other analysts to conduct their experiments in a more efficient manner.

Objective 2: Increase case throughput by upgrading current instruments and software, and completing validation of these changes to implement in casework. This will allow more samples to be run at a time, and decrease the time to run samples.

Objective 3: Reduce casework backlogs by allowing analysts to utilize overtime funding to complete analysis of cases and technical reviews.

Objective 4: Utilize overtime funding to complete technical reviews of cases with profiles that will be uploaded into CODIS.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective 1: Increase casework turnaround time

Funding became available in December 2010 (near the end of this reporting period). For this period, a total of 18 hours of overtime was used by a total of 4 members of the Forensic Biology/DNA Unit. The upgrade of the AB 3100 to provide single application to casework flow should improve turnaround time.

Objective 2: Increase case throughput

1. A request for sole source justification for the upgrade of the AB 3100 Genetic Analyzer to the AB 3130 Genetic Analyzer has been approved.
2. The DNA Unit supervisor and QA Manager are preparing specifications for a competitive bid among qualified vendors (Applied Biosystems, Sorenson Genomics and Bode Technology) to validate methodology so that Criminalists can devote more time to casework. The bidding process should be completed and the award issued by the end of the next reporting period.

Objective 3: Reduce casework backlogs

Funding became available in December, so due to the small amount of overtime used with NIJ funding during this period, the backlog actually increased for this period from 323 to 350

Objective 4: Utilize overtime funding to complete technical reviews of cases with profiles that will be uploaded into CODIS.

Following case file technical review that was completed using this overtime funding, one DNA profile was uploaded to CODIS. It did not result in a hit.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective 1: Decrease casework turnaround time

Objective 2: Increase case throughput

1. Software upgrade: The purchase order for the upgrade of the AB 3100 Genetic Analyzer to the AB 3130 Genetic analyzer was issued and the upgrade was completed on July 7, 2011. The benefit of this upgrade will be reported in the next progress report.
2. Validation of upgrade: The DNA unit supervisor has been working with the SFPD Contracts/Legal Division and overseeing a series of approvals required prior to announcing the bid to all three qualified vendors for the validation (Applied biosystems, Sorenson, and Body Technology). The union (Local 21) has completed a review of the scope of work, and the Civil Service Commission is scheduled to review the bid package for approval on July 18, 2011. The SFPD Fiscal Division will then release a requisition order so that the SF Office of Contracts Admin. can announce the bid. The contract will be awarded to the lowest bidder.

Objective 3: Reduce casework backlogs by utilizing overtime funds during this reporting period, 106 cases have been delivered to the requesting agency.

Objective 4: Utilize overtime funding to complete technical reviews of cases with profiles that will be uploaded into CODIS: During this reporting period, 94 cases have been technically reviewed using overtime funds.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1: Decrease casework turnaround time

Four (4) full time casework analysts continue to utilize the overtime funding approved in this grant. It is anticipated that the validation and implementation of the use of a single-amplification system (Identifiler Plus), faster run times using the upgraded capillary electrophoresis instruments (3130xls) and upgrading to the analysis software GeneMapper 3.2 (vs. the currently

used GeneScan and Genotyper) will improve the casework turnaround times. It is anticipated that the benefits of all of these will be reported in the next progress report.

Objective 2: Increase case throughput

1. Software upgrade: The upgrades of the AB 3100 Genetic Analyzers to the AB 3130xl Genetic Analyzers were completed on July 7, 2011. The 3130xL Genetic Analyzers are currently being validated in preparation for use in casework. The purchase of ten (10) copies of GeneMapper 3.2 software was completed, and the product received at the SFPD Crime Laboratory in January 2012. This software will be used in casework after validation has been completed.

2. Validation of upgrade: The bid for qualified vendors for the validation service was announced by the SF Office of Contracts Administration, and the contract was awarded to the lowest bidder (Applied Biosystems) in December 2011. The technician from AB has been working on-site at the SFPD Crime Laboratory as of January 23, 2012 to complete the initial phases of the validation project of Identifiler Plus.

Objective 3: Reduce casework backlogs by utilizing overtime funds

During this reporting period, 71 cases have been delivered to the requesting agency.

Objective 4: Utilize overtime funding to complete technical reviews of cases with profiles that will uploaded into CODIS:

During this reporting period, 71 cases have been technically reviewed using overtime funds.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Objective 1: Decrease casework turnaround time

The number of full time casework analysts utilizing overtime funding under this grant has increased from four (4) full time casework analysts to nine full time casework (9) analysts. The new analysts are using overtime to assist in the initial biological screening of cases so the other DNA analysts can perform the genetic analysis.

The validation of the Identifiler Plus system has been completed by Applied Biosystems. The implementation of the use of a single-amplification system (Identifiler Plus) in addition to the use of the 3130xLs and GeneMapper 3.2 was initially anticipated to have been reported within this reporting period, but due to other laboratory dynamics, the implementation of the newer methods has been slightly delayed. It was anticipated to have these systems on line by early Summer 2012 but the reality will be late Summer 2012/early Fall 2012.

Objective 2: Increase case throughput

1. Software upgrade: The upgrades of the AB 3100 Genetic Analyzers to the AB 3130xl Genetic Analyzers were completed on July 7, 2011. The laboratory work to validate the 3130xL Genetic Analyzers has been completed and the implementation for casework is currently awaiting the completion of the writing of a new SOP for use in casework, and the completion of in-house competency tests for analysts.

The purchase of ten (10) copies of GeneMapper 3.2 software was completed, and the product received at the SFPD Crime Laboratory in January 2012. This software will be implemented in casework after final SOP writing and instruction to analysts.

2. Validation of upgrade: The technician from Applied Biosystems worked on-site at the SFPD Crime Laboratory in January 23, 2012 to complete the initial phases of the validation project of Identifiler Plus. The final validation reports were delivered to the SFPD Crime Lab on May 22, 2012. The teach-back program offered to the SFPD Crime lab is currently scheduled to take place the week of August 20, 2012. The implementation of the technology will be scheduled in late Summer/early Fall 2012.

Objective 3: Reduce casework backlogs by utilizing overtime funds

During this reporting period, 97 cases have been delivered to the requesting agency using overtime funds.

Objective 4: Utilize overtime funding to complete technical reviews of cases with profiles that will uploaded into CODIS:

During this reporting period, the majority of the 97 cases worked using overtime funding involved technical review of cases worked in-house and outsourced.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Objective 1: Decrease casework turnaround time

The number of full time casework analysts utilizing overtime funding under this grant has increased from four (4) full time casework analysts to nine full time casework (9) analysts. The new analysts are using overtime to assist in the initial biological screening of cases so the other DNA analysts can perform the genetic analysis.

The validation of the Identifiler Plus system has been completed by Applied Biosystems. The implementation of the use of a single-amplification system (Identifiler Plus) in addition to the use of the 3130xLs and GeneMapper 3.2 was initially anticipated to have been reported within this reporting period, but due to other laboratory dynamics, the implementation of the newer methods has been slightly delayed. It was anticipated to have these systems on line by early Summer 2012 but the reality will be late Summer 2013.

Objective 2: Increase case throughput

1. Software upgrade: The upgrades of the AB 3100 Genetic Analyzers to the AB 3130xL Genetic Analyzers were completed on July 7, 2011. The laboratory work to validate the 3130xL Genetic Analyzers has been completed and the implementation for casework is currently awaiting the completion of the writing of a new SOP for use in casework, and the completion of in-house competency tests for analysts.

The purchase of ten (10) copies of GeneMapper 3.2 software was completed, and the product received at the SFPD Crime Laboratory in January 2012. This software will be implemented in casework after final SOP writing and instruction to analysts.

2. Validation of upgrade: The technician from Applied Biosystems worked on-site at the SFPD Crime Laboratory in January 23, 2012 to complete the initial phases of the validation project of Identifiler Plus. The final validation reports were delivered to the SFPD Crime Lab on May 22, 2012. The teach-back program offered to the SFPD Crime lab took place the week of August 20, 2012. The implementation of the technology will be scheduled in late Summer 2013.

Objective 3: Reduce casework backlogs by utilizing overtime funds

During this reporting period, 61 cases have been delivered to the requesting agency using overtime funds.

Objective 4: Utilize overtime funding to complete technical reviews of cases with profiles that will uploaded into CODIS:

During this reporting period, the majority of the 61 cases worked using overtime funding involved technical review of cases worked in-house and outsourced.

FY10 Recipient Name: Oakland Police Department, California

Award Number: 2010-DN-BX-K068

Award Amount: \$371,622

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective 1: Increase current DNA processing capacity with an expert system, equipment, and remodel of existing space.

Objective 2: Evaluation, screening, DNA typing, CODIS entry and report writing on fifty backlog cases.

Objective 3: Maintain the ability to enter DNA profiles obtained from the biological evidence into CODIS by meeting the continuing education requirements of FBI DNA QAS, ASCLD/LAB, and the American Board of Criminalistics. During the grant period, ten Forensic Biology Unit staff members (one has less than three years of experience) will need to attend training and continuing education programs.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective 1:

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	In Progress
Walk-In Freezer with High Density Storage	In Progress
Digital Cameras	Not Started
Expert System	No Longer Needed
Temperature Controlled Drying Cabinet	In Progress
Benches	In Progress

We were able to purchase the DNA Expert System using a different funding source. We will be submitting a grant modification to reallocate these funds to a different product. For this reporting period, 2010 DNA Backlog funds were used for analyst overtime.

Objective 2: We have evaluated, screened, and conducted DNA typing (where appropriate) on 6 case requests. Therefore, we have met 6% of our goal.

Objective 3: None of the requested training events have occurred at this time.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective 1:

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	In Progress
Walk-In Freezer with High Density Storage	In Progress
Digital Cameras	In Progress
Temperature Recording Probes	In Progress

Temperature Controlled Drying Cabinet	Purchased
Benches	In Progress
EZ1 Advanced XL Robot	In Progress
ArmedXpert Service Contract	In Progress
Laptop Computers	In Progress

The remodeling of the PCR room is in progress. The contractor has been selected and is currently going through the police department background check. It is anticipated the remodel will be complete by the end of the fourth quarter 2011.

Objective 2: We do not outsource the analyses of the backlog cases. 84 case requests (representing 58 cases) were evaluated, screened, and DNA typed (where appropriate). Therefore, we have met 58% of our goal. A portion of the analytical time was conducted on overtime with 2010 DNA Backlog funds.

Objective 3: The scientist assigned to attend the BODE conference in spring of 2011 was unable to attend.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1:

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	Ordered
Walk-In Freezer with High Density Storage	Ordered
Digital Cameras	In Progress
Temperature Recording Probes	In Progress
Temperature Controlled Drying Cabinet	Installed
Benches	Delivered
EZ1 Advanced XL Robot	Delivered
ArmedXpert Service Contract	In Progress
Laptop Computers	Ordered

The remodeling of the PCR room is complete.

Objective 2: We do not outsource the analyses of the backlog cases. 130 case requests (representing 89 cases) have been entered into the program 117 case requests (representing 86 cases) have been evaluated, screened, and DNA typed (where appropriate). Two cases have been administratively closed. Therefore, we have met 89% of our goal. A portion of the analytical time was conducted on overtime with 2010 DNA Backlog funds.

Objective 3: The scientist assigned to attend the BODE conference in spring of 2011 was unable to attend.

Two scientists attended the Spring 2011 CAC Seminar and one scientist attended the Fall 2011 CAC Seminar.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Objective 1:

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	Delivered
High Density Storage	Ordered
Walk-In Freezer	Changed Objective to cancel the walk in freezer purchase
Digital Cameras	Delivered
Temperature Recording Probes	In Progress – waiting for three bids as required by City Purchasing
Temperature Controlled Drying Cabinet	Installed
Benches	Installed
EZ1 Advanced XL Robot	Performance Checks being conducted
ArmedXpert Service Contract	Purchased
Laptop Computers	Delivered and assigned

The remodeling of the PCR room is complete.

Objective 2: We do not outsource the analyses of the backlog cases.

332 case requests (representing 273 cases) have been entered into the program 34 case requests have been administratively closed due to cancelation by the investigator, lack of physical evidence (i.e. reference sample only when thought to be a sexual assault kit) or probative evidence was found in the first request therefore the second request was not needed.

This leaves 254 viable cases for biological evidence evaluation and examination.

140 case cases have been evaluated, screened, and DNA typed (where appropriate). Therefore, we have exceeded our goal of analyzing 50 backlogged cases by 90cases. It is anticipated that the remaining 114 cases will be completed by the close of this grant.

A portion of the analytical time was conducted on overtime with 2010 DNA Backlog funds.

Objective 3: The scientist attended the BODE conference in spring of 2012.

One scientist attended the Spring 2012 CAC Seminar and one scientist attended the February 2012 AAFS Meeting.

Objective 4: Use of a LIMS to enhance efficiency—role of the LIMS coordinator

We requested and were granted the transfer of this objective to the Backlog 2010 grant. Never the less the LIMS Coordinator has completed his evaluation of our

laboratory's LIMS needs and is working with the City Contracts and Purchasing personnel to finalize the Request For Proposal for submission to the vendors for bidding. The RFP process in the City is lengthy and we anticipated the bidding process to begin shortly.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Objective 1:

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	Delivered awaiting IT for install
High Density Storage	Installed
Walk-In Freezer	Changed Objective to cancel the walk in freezer purchase
Digital Cameras	Delivered – in use on cases
Temperature Recording Probes	Will request GAN as temperature probes judged not viable for current laboratory organization
Temperature Controlled Drying Cabinet	Installed and in use
Benches	Installed
EZ1 Advanced XL Robot	PM checks completed
ArmedXpert Service Contract	Purchased
Laptop Computers	Delivered, assigned and in use

The remodeling of the PCR room is complete.

Objective 2: We do not outsource the analyses of the backlog cases.

332 case requests (representing 273 cases) have been entered into the program 50 case requests have been administratively closed due to cancelation by the investigator, lack of physical evidence (i.e. reference sample only when thought to be a sexual assault kit) or probative evidence was found in the first request therefore the second request was not needed.

This leaves 237 viable cases for biological evidence evaluation and examination. 147 case cases have been evaluated, screened, and DNA typed (where appropriate). Therefore, we have exceeded our goal of analyzing 50 backlogged cases by 97cases. It is anticipated that the remaining 90 cases will be completed by the close of this grant.

A portion of the analytical time was conducted on overtime with 2010 DNA Backlog funds.

Due to significant savings on several of the large project funded under the DNA Backlog 2010 grant (Drying Cabinet, PCR Room Remodel, Electrical Wiring no longer needed) we will be requesting a GAN to transfer theses funds into the purchase of DNA analyses kits and supplies to complete the analyses of approximately 60 sexual assault kits that have been enrolled into this program. No overtime will be requested for the analyses of these kits.

Objective 3: The scientist attended the BODE conference in spring of 2012.

Three scientists attended the Fall 2012 CAC Seminar
 One scientist attended the Promega Meeting
 One Forensic Technician attended a RT-PCR/STR training course
 Automation Training was conducted in house by the vendor of the liquid handler.

Objective 4: Use of a LIMS to enhance efficiency—role of the LIMS coordinator

We requested and were granted the transfer of this objective to the Backlog 2010 grant. Never the less the LIMS Coordinator has completed his evaluation of our laboratory’s LIMS needs and is working with the City Contracts and Purchasing personnel to finalize the Request for Proposal for submission to the vendors for bidding. Unfortunately due to mandatory City Furlough days the RFP has not been finalized. The RFP process in the City is lengthy and we anticipated the bidding process to begin shortly.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Objective 1:

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	IT in process of installing
High Density Storage	Installed
Walk-In Freezer	Changed Objective to cancel the walk in freezer purchase
Digital Cameras	Delivered – in use on cases
Temperature Recording Probes	Will request GAN as temperature probes judged not viable for current laboratory organization
Temperature Controlled Drying Cabinet	Installed and in use
Benches	Installed
EZ1 Advanced XL Robot	PM checks completed
ArmedXpert Service Contract	Purchased
Laptop Computers	Delivered, assigned and in use

The remodeling of the PCR room is complete.

Objective 2: We do not outsource the analyses of the backlog cases.

332 case requests (representing 273 cases) have been entered into the program
 51 case requests have been administratively closed due to cancelation by the investigator, lack of physical evidence (i.e. reference sample only when thought to be a sexual assault kit) or probative evidence was found in the first request therefore the second request was not needed.
 This leaves 236 viable cases for biological evidence evaluation and examination.
 156 case cases have been evaluated, screened, and DNA typed (where appropriate). Therefore, we have exceeded our goal of analyzing 50 backlogged cases by 106 cases. We requested a grant modification for the purchase of

additional DNA typing kits and supplies. The request would support the analysis of a total of 116 cases. Thus we have also exceeded the number of analyzed cases required under the grant modification by 40 cases. A good faith effort will be made to complete the remaining cases by the close of this grant.

A portion of the analytical time was conducted on overtime with 2010 DNA Backlog funds.

Due to significant savings on several of the large project funded under the DNA Backlog 2010 grant (Drying Cabinet, PCR Room Remodel, Electrical Wiring no longer needed) we requested a grant modification to transfer these funds into the purchase of DNA analyses kits and supplies to complete the analyses of approximately 60 sexual assault kits that have been enrolled into this program. No overtime will be requested for the analyses of these kits.

Objective 3: The scientist attended the BODE conference in spring of 2012.

Three scientists attended the Fall 2012 CAC Seminar

One scientist attended the Promega Meeting

One Forensic Technician attended a RT-PCR/STR training course

Automation Training was conducted in house by the vendor of the liquid handler.

Objective 4: Use of a LIMS to enhance efficiency—role of the LIMS coordinator

We requested and were granted the transfer of this objective to the Backlog 2010 grant. Never the less the LIMS Coordinator has completed his evaluation of our laboratory's LIMS needs and has prepared the draft Request for Proposal for submission to the vendors for bidding. The laboratory has needed to prepare for their up-coming ASCLD-LAB ISO 17025 assessment and elected to delay the release of the RFP. It is anticipated that the RFP will be place for bid later this summer.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Objective 1: *Increase current DNA processing capacity with an expert system, equipment, and remodel of existing space.*

Equipment / Remodel	Purchase Status
High Speed / Large Storage Server	Installed and in use
High Density Storage	Installed
Walk-In Freezer	Changed Objective to cancel the walk in freezer purchase
Digital Cameras	Delivered – in use on cases
Temperature Recording Probes	No longer needed
Temperature Controlled Drying Cabinet	Installed and in use
Benches	Installed
EZ1 Advanced XL Robot	Used in casework
ArmedXpert Service Contract	Purchased
Laptop Computers	Delivered, assigned and in use

The remodeling of the PCR room is complete.

Objective 2: *Evaluation, screening, DNA typing, CODIS entry and report writing on one hundred backlog cases.*

We do not outsource the analyses of the backlog cases.

332 case requests (representing 273 cases) have been entered into the program

64 case requests have been administratively closed due to cancelation by the investigator, lack of physical evidence (i.e. reference sample only when thought to be a sexual assault kit) or probative evidence was found in the first request therefore the second request was not needed. This leaves 209 viable cases for biological evidence evaluation and examination.

A grant modification was approved for the purchase of additional DNA typing kits and supplies for the examination of 116 cases total. 167 case cases have been evaluated, screened, and DNA typed (where appropriate). Therefore, we have exceeded our updated goal of analyzing 116 backlogged cases. Thus we have also exceeded the number of analyzed cases required under the grant modification by 51 cases. The remaining cases enrolled in this program will be analyzed over the normal course of business.

A portion of the analytical time was conducted on overtime with 2010 DNA Backlog funds. Due to significant savings on several of the large projects funded under the DNA Backlog 2010 grant (Drying Cabinet, PCR Room Remodel, Electrical Wiring) we requested and were granted a grant modification to transfer funds into the purchase of DNA analyses kits and supplies to complete the analyses of 76 additional sexual assault kits enrolled in this grant program. No overtime funds were requested for the analyses of these kits.

Objective 3: *Maintain the ability to enter DNA profiles obtained from the biological evidence into CODIS by meeting the continuing education requirements of FBI DNA QAS, ASCLD/LAB, and the American Board of Criminalistics. During the grant period, ten Forensic Biology Unit staff members (one has less than three years of experience) will need to attend training and continuing education programs.*

No training events occurred during this reporting period.

Objective 4: *Use of a LIMS to enhance efficiency—role of the LIMS coordinator*

We requested and were granted the transfer of this objective to the Backlog 2010 grant.

Never the less the LIMS Coordinator has completed his evaluation of our laboratory's LIMS needs and has prepared the draft Request for Proposal for submission to the vendors for bidding. The laboratory delayed the release of the RFP as the entire Oakland Police Department will be updating the technical information systems in which the laboratory will be an integral part.

FINAL REPORT:

Objective 1: *Increase current DNA processing capacity with an expert system, equipment, and remodel of existing space.*

The Laboratory uses the expert system software ArmedXpert and purchase the associated maintenance agreement with funds from this grant. The implementation of ArmedXpert has significantly reduced the time scientists spend in deconvoluting DNA mixtures from hours to minutes. ArmedXpert is also used in the population frequency calculations. An unexpected bonus of the use of this software is the reduction in technical review of the data interpretation of the entire case file.

The Oakland Police Department Criminalistics Laboratory was invited to participate in a nationwide study on the use of ArmedXpert. The results of this study were presented at the American Academy of Forensic Science meeting in February 2013.

The remodel of the laboratory's PCR room has significantly improved the work flow. The delicate and expensive equipment (QIAgility liquid handler and thermalcyclers) are now housed on solid surfaces. The addition of the high density storage units has improved the organization of the storage of physical evidence; hence the retrieval of said evidence.

The EZ1 XL DNA extraction robot is a needed addition as the implementation of the automated DNase selective degradation process significantly increased the number of samples requiring DNA extraction. The laboratory is now at a right size DNA extraction capacity.

The environmental control chamber is installed. This piece of equipment is vital in assuring the biological material is dried appropriately for long term storage. In addition, this chamber is used to prepare samples for research and validation studies (i.e. samples for the DNase study).

The high capacity server allows the Forensic Biology Unit staff to readily access protocols and worksheets and to route data electronically to the instruments without the issue of limited electronic storage space.

Objective 2: Evaluation, screening, DNA typing, CODIS entry and report writing on one hundred sixteen backlog cases.

We have completed the analysis of 167 backlogged cases. Thus we have also exceeded the number of analyzed cases required under the grant modification by 51 cases. The implementation of the automated DNase selective degradation improved the number of analyzed sexual assault kits. A maximum of twelve sexual assault kits can be placed onto the robot at one time.

Objective 3: Maintain the ability to enter DNA profiles obtained from the biological evidence into CODIS by meeting the continuing education requirements of FBI DNA QAS, ASCLD/LAB, and the American Board of Criminalistics. During the grant period, ten Forensic Biology Unit staff members (one has less than three years of experience) will need to attend training and continuing education programs.

Scientists attended the following training events funded by this grant:

American Academy of Forensic Science
2011 – One scientist
2012 – One scientist, newly hired

Bode

2012 – One scientist

California Association of Criminalists

Spring 2011 – Two scientists

Fall 2011 – One scientist

Spring 2012 – One scientist

Fall 2012 – Three scientists

Promega

2011 – One scientist

2012 – One scientist

DNA Automation

In-house training

DNA Quantitation

May 2012 – One scientist – newly hired

NIJ Grantee's Conference

2011 – One scientist authorized to attend. She was the primary scientist on the DNA Efficiency Grant 2010 awarded to the laboratory. She attended to gain knowledge on the use of DNase in sexual assault evidence examination. She was also a newly hired scientist.

Objective 4: *Use of a LIMS to enhance efficiency—role of the LIMS coordinator*

The LIMS Coordinator has completed his evaluation of our laboratory's LIMS needs and prepared the draft Request for Proposal for submission to the vendors for bidding. The laboratory delayed the release of the RFP as the entire Oakland Police Department will be updating the technical information systems in which the laboratory will be an integral part.

FY10 Recipient Name: City and County of Denver, Colorado

Award Number: 2010-DN-BX-K158

Award Amount: \$203,992

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

1. To retain one fully trained, grant-funded analyst to prevent future backlog growth.
2. To purchase and performance check a 7500 real-time PCR quantitation instrument for use on casework.
3. To recruit and hire two part-time laboratory technicians for one year to increase laboratory capacity.

4. To equip new laboratory workstations with microcentrifuges and to purchase a second cross linker for
UV decontamination of critical plasticware and reagents.
5. To provide continuing education and training opportunities for DNA/FBIO analysts.
6. Outsource 93 cases for DNA analysis to a vendor laboratory (New goal from Budget Modification GAN #6, approved January 2013).
7. To fund forensic scientist overtime to screen evidence for outsourcing, and to review DNA data from
outsourced DNA cases (New goal from Budget Modification GAN #6, approved January 2013).

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

There has been no activity to date on this grant. The grant was officially accepted on 10/21/2010 and afterwards it took several weeks to establish the grant budget in the city's system. (City policy dictates that grants that will purchase equipment that exceeds \$50,000 must be separately approved by City Council via an ordinance).

Progress towards project objectives:

1. No spending occurred during this quarter – see explanation above.
2. No spending occurred during this quarter – see explanation above.
3. No spending occurred during this quarter – see explanation above.
4. No spending occurred during this quarter – see explanation above.
5. No spending occurred during this quarter – see explanation above.

Notes:

Under question 6, the backlog of DNA cases is listed as 736; however this number includes 361 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 375 cases.

No spending occurred during this quarter – see explanation above.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

There has been no activity on this grant. A proposal was submitted to City officials from Laboratory personnel in November 2010 that outlined a plan for a more sustainable and effective use of funding. The crime lab proposed that Backlog Reduction grant funding would be adjusted and used to purchase reagents and supplies for the Biology/DNA unit; the majority of these items are currently paid by the City's general fund. In exchange, three forensic scientists in the Biology/DNA unit whose salaries and benefits are paid by grant funding (Backlog Reduction and Cold Case) will receive permanent expansion positions, paid by the City's general fund. While awaiting approval of this proposal, the laboratory did not spend any funds on this grant.

The laboratory was able to demonstrate that permanent employment positions would result in a longer retention of trained analysts. This proposal was approved by City officials in June 2011 and three grant funded analysts will be transferred to full-time permanent positions. Once the transition is finalized, a GAN will be submitted requesting the 2010 Backlog Reduction grant funds currently allocated for one full-time analyst, one ABI 7500 and one

QIAgility liquid handling robot be transferred to the purchase of analytical reagents and supplies to be used to process forensic cases.

Progress towards project objectives:

1. No spending occurred during this period – see explanation above.
2. No spending occurred during this period – see explanation above.
3. No spending occurred during this period – see explanation above.
4. No spending occurred during this period.
5. No spending occurred during this period.

Notes:

Under question 6, the backlog of DNA cases is listed as 670; however this number includes 330 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 340 cases.
No spending occurred during this period – see explanation above.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Progress towards project objectives:

1. No spending occurred during this period.
There has been no activity on the goal regarding the use of these funds for the retention of one fully trained, grant-funded analyst. A proposal was submitted to City officials from Laboratory personnel in November 2010 to create permanent expansion positions for three forensic scientist positions in the Forensic Biology/DNA unit. This proposal was accepted by City officials in June 2011. These permanent positions were created, which was a great success for the crime laboratory. The salaries and benefits of the permanent employees will continue to be paid for by grant funding (Backlog Reduction and Cold Case). No GAN will be submitted as described in the previous reporting period. The forensic biologist currently funded under the 2009 Backlog Reduction Grant will transition to the 2010 Backlog Reduction Grant once the 2009 funds have been depleted.
2. Complete.
The goal of purchasing and conducting a performance check of a new 7500 real-time PCR quantitation instrument has been completed. This instrument was purchased and received in the fall of 2011. A performance check was conducted on November 22, 2011 that consisted of a sensitivity study and the use of appropriate controls. The same sets of samples were run concurrently on a previously validated instrument (7500A) and on the newly received instrument (7500B). Based upon the performance check of 7500B, this instrument was comparable in performance to 7500A and can be utilized reliably for the quantitation of casework DNA samples. This instrument was approved for the quantitation of casework samples on November 28, 2011.
3. No spending occurred during this period.
The goal of purchasing and conducting a performance check on a QIAgility liquid handling robot was modified through a GAN. Two GANs (GAN #1 and #2, see below) were submitted and approved in September 2011, requesting these funds be reprogrammed towards funding two part-time laboratory technicians (one for 20

hours per week and the second for 30 hours per week) for a one year period. A proposal was submitted to City Officials requesting the creation of a new Forensic Laboratory Technician job classification and was approved on July 21, 2011. Recruitment for these positions was conducted in November 2011. Over 70 qualified candidates applied; their applications have been scored and evaluated, and interviews are planned for late January 2012.

4. Complete.

The goal of purchasing two microcentrifuges and a second cross linker for UV decontamination has been completed. Two microcentrifuges were received during the fall of 2011. One centrifuge was placed in the pre-amplification lab to be used for extraction, quantitation and amplification set-up and the second was placed in the post-amplification laboratory for the set-up on the Genetic Analyzers. The cross linker was received during the fall of 2011 and has been performance checked to ensure thorough decontamination of reagents and consumables utilized for the screening and DNA analysis of casework samples. The new cross linker has been in use since December 2011.

5. In progress.

There has been activity on this goal to provide continuing education and training opportunities for DNA/FBIO analysts. A GAN (GAN #1, see below) was submitted and approved in September 2011, requesting funding to send two FBio/DNA analysts to the Northwest Association of Forensic Scientists (NWAFS) Annual Meeting instead of the four analysts scheduled to attend the 8th Annual Advanced DNA Technology Workshop – West and the 22nd International Symposium on Human Identification. However, due to budget constraints, obtaining approval from upper management for travel and training leave has been challenging. Their preference is that employees seek local or in-state training opportunities. One analyst was approved to attend the NWAFS meeting and one analyst was not. The analyst approved for the NWAFS meeting had to change plans due to scheduling conflicts and instead attended the California Association of Criminalists (CAC) annual meeting in Sacramento, California in October 2011. The other analyst completed her continuing education requirement in Denver through a combination of training conducted by an outside vendor at the Denver Police Department Laboratory and through on-line opportunities provided by the NFSTC.

Additionally, other training opportunities arose for the remaining FBio/DNA analysts (such as the DNA Mixture Interpretation Workshop by the NFSTC, Advanced DNA Technology Training at Marshall University, the annual CODIS conference and the NIJ Grantee's meeting) and additional funding for continuing education was not needed. At the conclusion of 2011, all FBio/DNA analysts completed their Continuing Education requirements. Due to having remaining funds from this goal, GAN #1 also modified the budget of this award to allocate funding from this goal to be used for the salaries of two part-time laboratory technicians (see Goal 3 above).

Notes:

The DPD defined backlog as >60 for the initial metrics of this grant (i.e., application and previous programmatic reports). The following metrics were updated due to the definition of backlog as >30 days in the "Guidelines for Performance Measures: DNA Backlog Reduction Program" during this reporting period:

Table 1: DNA Backlog Performance Measures at the beginning of the award period (October 1, 2010)

At the beginning of the award period, what was the number of backlogged forensic DNA cases?	732 changed to 868
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Under this metric, the backlog of DNA cases is listed as 868; however this number includes 380 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 488 cases.

Table 2: Performance Metrics from Progress Reports 1 – 4: Oct-Dec '10 Jan-Jun '11

At the end of this reporting period, what was the number of backlogged forensic DNA cases?	736 changed to 816	670 changed to 895
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Under this metric, the backlog of DNA cases for Oct-Dec '10 is listed as 816; however this number includes 361 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 455. The backlog of DNA cases for Jan-Jun '11 is listed as 895; however this number includes 355 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 540.

GOALS AND OBJECTIVES OF PROJECT:

The third goal of this project, originally, “to purchase and performance check a QIAgility liquid handling robot for use on casework” was modified by GANs #1 and #2 “to recruit and hire two part-time laboratory technicians for one year to increase laboratory capacity.” The Goals and Objectives of Project section of this report was updated with this revised goal.

GRANT ADJUSTMENT NOTICES:

- GAN #1 (Budget Modification) was accepted in September 2011 and reprogrammed funds to support two new Laboratory Technician positions with realized savings in Equipment and Travel categories.
- GAN #2 (Project Period Extension) was accepted in September 2011 and extended the grant to 3/31/2013 to enable the new Laboratory Technician positions (to start in early 2012) to work for a period of one full year.
- GAN #3 (Key Personnel Changes) was accepted in September 2011 and updated the NIJ that the CODIS Administrator changed from Melissa Grass to Eric Duvall and the QA Manager changed from Linda Black to Bonnie Mountain.
- GAN #4 (Change in Authorized Signatory) was accepted in December 2011 and updated the NIJ that the signing official has changed to the new Denver Police Department Chief, Robert C. White.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

GOALS AND OBJECTIVES OF PROJECT:

Progress towards project objectives:

1. No spending occurred during this period.

There has been no activity on the goal regarding the use of these funds for the retention of one fully trained, grant-funded analyst. The forensic biologist currently funded under the 2009 Backlog Reduction Grant is expected to transition to the 2010 Backlog Reduction Grant once the 2009 funds are depleted (an estimated date of 7/31/2012).

2. Complete.

3. In progress.

The recruitment and hiring of two part-time laboratory technicians was completed in February 2012. The two newly acquired laboratory technicians were hired to increase laboratory capacity by performing supportive duties, such as conducting instrument maintenance, cleaning facilities, ordering and stocking supplies, completing QA/QC checks and providing discovery materials. With the laboratory technicians completing these tasks, Forensic Biologists and DNA Analysts have been able to spend more time completing casework.

In May 2012, the laboratory technicians switched to funding provided on the 2009 DNA Efficiency Improvement Project. The funding is for 3.75 months and the EIP Manager for the Efficiency Project will generate a cost analysis regarding the benefit of hiring laboratory technicians to assist analysts. The laboratory technicians are fulfilling the same supportive duties they were performing under this award and are expected to return to this funding in the next reporting period.

4. Complete.

5. Complete.

A GAN (GAN #1, see July 1, 2011 – December 31, 2011 Progress Report) was submitted and approved to allocate the majority of the remaining funds from this goal towards the salaries of two part-time laboratory technicians (see Goal 3 above).

Notes:

Under the metric listed in Table 2, the backlog of DNA cases for January – June 2012 is listed as 1273; however this number includes 378 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 895.

GRANT ADJUSTMENT NOTICES:

- There were no project changes during this reporting period.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

GOALS AND OBJECTIVES OF PROJECT:

Progress towards project objectives:

1. In progress.

The forensic biologist/DNA technician was funded under the 2009 Backlog Reduction Grant through 8/6/2012 and transitioned to the 2010 Backlog Reduction Grant on 8/7/2012. Between 8/7/2012 – 12/31/2012 she completed 37 forensic biology cases and became qualified in DNA extraction using the QIASymphony SP

extraction robot. She also completed the extraction of 228 DNA casework samples, quantitation of 293 DNA casework samples and capillary electrophoresis of 596 DNA casework samples during this period. This is a total of 1,117 DNA samples.

2. Complete.

3. In progress.

The two laboratory technicians were temporarily funded for 4.5 months via the 2009 DNA Efficiency Improvement Project (through September 2012). The Project Manager for the Efficiency Project generated a cost analysis regarding the benefit of hiring laboratory technicians to assist analysts. We estimate that in those 4.5 months, the DNA Unit realized salary savings of \$12,830 and a 12% increase in cases completed attributable to these two technicians. The laboratory technicians were fulfilling the same support duties they were performing under this award and returned to the 2010 Backlog Reduction funding source the week of 9/24/2012.

The two laboratory technicians increased laboratory capacity by performing supportive duties, such as conducting instrument maintenance, cleaning facilities, ordering and stocking supplies, completing QA/QC checks and providing discovery materials. They also completed training in evidence handling and note taking and are qualified to submit cuttings from known reference samples and sexual assault kits for DNA analysis. With the laboratory technicians completing these tasks, Forensic Biologists and DNA Analysts have been able to spend more time completing casework. [One of the laboratory technicians resigned on November 12, 2012.](#)

4. Complete.

5. There were available funds remaining for one DNA analyst to attend the Midwestern Association of Forensic Scientists Annual Meeting in September 2012 in Milwaukee, Wisconsin. This satisfied the analyst's continuing education requirement for 2012 and provided valuable information about research and developments in the field of forensic DNA.

Notes:

Under the metric listed in Table 2, the backlog of DNA cases for July – Dec 2012 is listed as listed as 1376; however this number includes 378 cold cases that are being tested with a Solving Cold Cases with DNA grant. The backlog excluding cold cases is 998 cases.

GRANT ADJUSTMENT NOTICES:

- GAN #5 (Budget Modification) was accepted in November 2012 and reprogrammed funds to allow travel and training to the Midwestern Association of Forensic Scientists Annual Meeting for one DNA analyst, and to correct our budget to NIJ's requested format.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

GOALS AND OBJECTIVES OF PROJECT:

Progress towards project objectives:

1. The forensic biologist/DNA technician was funded by this award from 1/1/2013 until 6/4/2013. On 4/18/2013 she became fully qualified as a DNA analyst. Her accomplishments during this reporting period were:
 - Completion of 86 forensic biology cases

- Completion of 10 DNA cases, resulting in 7 DNA profiles uploaded to CODIS and 5 CODIS hits
 - Extraction of 231 samples, quantitation of 274, amplification of 451 and capillary electrophoresis of 608. Total = 1,564 DNA samples
 - Her completion of 96 cases, 7 CODIS profiles and 5 hits is reported under the optional metric for grant-funded analysts.
2. Completed in previous reporting period.
 3. The vacant laboratory technician position was filled on 3/25/2013 and the new employee ended her employment with the laboratory during the new hire probationary period on 5/31/2013. The other laboratory technician worked on this grant throughout this reporting period. The two laboratory technicians increased laboratory capacity by performing supportive duties, such as conducting instrument maintenance, cleaning facilities, ordering and stocking supplies, completing QA/QC checks and providing discovery materials. They also submitted cuttings from 34 known reference samples for DNA analysis. With the laboratory technicians completing these tasks, Forensic Biologists and DNA Analysts have been able to spend more time completing casework.
 4. Completed in previous reporting period.
 5. Completed in previous reporting period.
 6. The DNA Unit outsourced 111 cases to The Bode Technology Group for DNA analysis on 1/30/2013 and DNA results were received in late March of 2013. The batch review of the data and controls was completed on 5/21/2013 and the cases were released for technical review and CODIS upload. These 111 cases are reported under the metric for cases analyzed with outsourcing. The first 26 cases were reviewed with 20 DNA profiles entered into CODIS and 34 CODIS hits. The number of CODIS hits exceeds the number of DNA profiles uploaded because of a large number of forensic hits case-to-case. When one DNA profile is uploaded, in some cases it hit to one or more other cases, in addition to an offender or arrestee hit.
 7. Forensic scientist overtime was used to complete:
 - Forensic biology testing of 34 cases
 - Administrative closeout reports on 5 cases
 - In-house DNA testing of 22 cases, resulting in 25 DNA profiles uploaded to CODIS and 35 CODIS hits. The number of CODIS hits exceeds the number of DNA profiles uploaded because of a large number of forensic hits case-to-case. When one DNA profile is uploaded, in some cases it hit to one or more other cases, in addition to an offender or arrestee hit.
 - The total of 61 cases, 25 CODIS profiles and 35 hits are included under the metrics for cases analyzed with overtime, profiles entered into CODIS and CODIS hits.

GRANT ADJUSTMENT NOTICES:

- GAN #6 (Budget Modification) was approved in January 2013 to address savings realized from the resignation of one Forensic Laboratory Technician (related to goal 1). The funds were redirected to:
 - The current contract with Bode Technology Group of Lorton, Virginia to conduct DNA analysis of 93 additional property crime cases

- Support forensic scientist overtime to screen evidence on these 93 cases and review the DNA data returned by Bode Technology Group.
- GAN #7 (Project Extension) was approved in February 2013 to extend the grant to 6/30/2013.

FINAL REPORT:

1. To retain one fully trained, grant-funded analyst to prevent future backlog growth.

The grant-funded analyst was retained from August 7, 2012 – June 4, 2013 on this grant and accomplished 123 forensic biology cases, 10 DNA cases and analysis of 2,681 DNA samples. Her work also yielded 7 profiles uploaded to CODIS and 5 CODIS hits.
2. To purchase and performance check a 7500 real-time PCR quantitation instrument for use on casework.

This instrument was purchased and received in the fall of 2011. Based upon the performance check of this instrument, it can be utilized for reliable quantitation of casework DNA samples. This instrument was approved for the quantitation of casework samples on November 28, 2011 and has been in use since that time.
3. To recruit and hire two part-time laboratory technicians for one year to increase laboratory capacity.

The two laboratory technicians increased laboratory capacity by performing supportive duties, such as conducting instrument maintenance, cleaning facilities, ordering and stocking supplies, completing QA/QC checks and providing discovery materials. With the laboratory technicians completing these tasks, Forensic Biologists and DNA Analysts have been able to spend more time completing casework.
4. To equip new laboratory workstations with microcentrifuges and to purchase a second cross linker for

UV decontamination of critical plasticware and reagents.

The goal of purchasing two microcentrifuges and a second cross linker for UV decontamination was completed in the fall of 2011 and the equipment has been in use since that time. One centrifuge was placed in the pre-amplification lab to be used for extraction, quantitation and amplification set-up and the second was placed in the post-amplification laboratory for set-up on the Genetic Analyzers. The cross linker was performance checked to ensure thorough decontamination of reagents and consumables utilized for the screening and DNA analysis of casework samples.
5. To provide continuing education and training opportunities for DNA/FBIO analysts.

One analyst attended the California Association of Criminalists (CAC) annual meeting in Sacramento, California in October 2011. One DNA analyst attended the Midwestern Association of Forensic Scientists Annual Meeting in September 2012 in Milwaukee, Wisconsin.
6. Outsource 93 cases for DNA analysis to a vendor laboratory.

The DNA Unit outsourced 111 cases to The Bode Technology Group for DNA analysis. The first 26 cases were reviewed and uploaded to CODIS before 6/30/13 and yielded 20 DNA profiles and 34 CODIS hits.

In the period after the grant expired (between 7/1/13 – 9/16/13), additional outsourced cases were reviewed and uploaded to CODIS, resulting in 44 DNA profiles entered into CODIS and 41 CODIS hits, which are reported in the metrics table under the July – September 2013 period. The case reviews were performed in-house and did not involve overtime or grant-funded analysts. These CODIS profiles and hits are only counted under this award.

Altogether, the outsourcing effort funded by this grant yielded 64 DNA profiles entered into CODIS and 75 hits.

7. To fund forensic scientist overtime to screen evidence for outsourcing, and to review DNA data from outsourced DNA cases.

Forensic scientist overtime was used to complete forensic biology testing of 34 cases, administrative closeout reports on 5 cases, and in-house DNA testing of 22 cases, for a total of 61 cases. Their work resulted in 25 DNA profiles uploaded to CODIS and 35 CODIS hits.

FY10 Recipient Name: Colorado Department of Public Safety

Award Number: 2010-DN-BX-K154

Award Amount: \$580,593

Final Report:

Project Summary:

The CBI first objective in achieving the goals noted in the “FY2010 Forensic DNA Backlog Reduction Program” solicitation is to secure four 24-Capillary Genetic Analyzers. The CBI has received funding to address the expected bottleneck linked to the analyst’s initial review of the data as well as the technical reviews with its plans to bid out an expert system. Linked to this upgrade in efficiencies is a need for a more efficient Genetic Analyzer, one that will analyze more samples in a shorter time period. The 24-Capillary Genetic Analyzer meets the need for efficiency in that 24 samples can be injected at one time and a 96 well plate with only 3 injections can be completed in about 2 to 2.5 hours. In the course of a day two plates can be run and if necessary another 2 plates can be set up and run overnight. It is expected that an approximate 5% increase in case output should be anticipated with the implementation of these 24-Capillary Genetic Analyzers within the lab system. A critical piece in this process is the validation and performance checks that are a critical part of bringing a new instrument on line. Funds to assist in this process so as to reduce the need to use regular hour time to bring these instruments on line will assist in maintaining the current pace of DNA analysis.

The second objective relative to meeting the stated goals of the 2010 DNA backlog grant solicitation is to have staff capable in knowledge, skills and ability to perform the work demanded within this discipline. A critical part of any DNA analysis is the forensic analysis of the items of evidence, the processing of the correct areas of an item of evidence to obtain useful and meaningful results. In addition, knowing how to effectively utilize the instruments, and interpret the data in light of the location of the stains, and location of trace DNA collections result in a more effective forensic analysis of any item of evidence. Well trained and informed analysts are more confident in their work and the CBI seeks to continue to provide opportunities to meet the continuing education needs of its staff. With a staff of varied knowledge and experience levels it is essential that the CBI provide each analyst with training that will meet

their current needs. The CBI is requesting a portion of the grant to assist in providing the FBI QAS mandated 8 hours of annual DNA training.

GOAL 1: To increase case output and reduce turnaround time per DNA analyst.

Objective 1: To purchase and bring on line four 24-Capillary Genetic Analyzers so as to increase the number of DNA items processed per analyst per month.

Objective 2: To provide continuing education opportunities to staff in order to maintain skills and knowledge.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Project Activities:

GOAL 1: To increase case output and reduce turnaround time per DNA analyst.

Objective 1: The grant acceptance process has been completed, and a price quote for the ABI 3500 24-Capillary Genetic Analyzers has been requested. No funds have been expended.

Objective 2: The grant acceptance process has been completed. During this reporting period there was no activity, and no funds were expended.

Progress: During this reporting period the grant approval process was completed. There was no other activity, and no funds were encumbered or expended.

The sole source for the genetic analyzers has been drafted and will be submitted by 01/31/2011.

Grant Adjustments:

- A grant adjustment was submitted and approved requesting a change in the programmatic point of contact. The approval date was 11/2/2010 and the GAN number is 214666.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Project Activities:

GOAL 1: To increase case output and reduce turnaround time per DNA analyst.

Objective 1: Three 3500xL Genetic Analyzers 3500xL have been purchased.

Two 3500xLs have been delivered to the CBI-FS Denver Laboratory and one 3500xL has been delivered to the CBI-FS Grand Junction Laboratory. One 3500xL has been installed in the CBI-FS Denver Laboratory. The CBI-FS technical leader has developed, approved, and started the validation study utilizing overtime funds provided for in this grant. Funds expended for the purchase of this instrumentation and validation study to date are \$461,961.86.

Objective 2: Three analysts have attended the required 8 hours of continuing education using funding from this grant. Funds expended for this training \$2,404.57

Progress: The sole source for the purchase of the 3500xL Genetic Analyzers has been submitted and approved. Three 3500xL Genetic Analyzers have been purchased and delivered. One 3500xL has been installed in the CBI-FS Denver laboratory. The CBI-FS system wide validation study for the 3500xL has been developed and approved by the CBI-FS technical leader. The technical leader has begun using overtime funds from this grant to

work on the validation study. Additionally three DNA analysts have received continuing education using funding from this grant.

Grant Adjustments:

- A grant adjustment (GAN 002) was submitted and approved requesting sole source approval to purchase the 3500xL Genetic Analyzers from Applied Bioystems. The approval date was February 28, 2011 and the GAN number is 236824.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Project Activities:

GOAL 1: To increase case output and reduce turnaround time per DNA analyst.

Objective 1: All three 3500xL Genetic analyzers have been purchased, delivered, and installed. The system wide validation study on the 3500xL Genetic Analyzers is currently ongoing with the participation of all analysts within the system. Additionally, a GAN was submitted and approved to allow for the purchase of two automated DNA extraction systems. Two Automate Forensic DNA Extraction Systems were purchased and delivered to the CBI-FS Denver Laboratory. Funds expended during this reporting period for the purchase of this instrumentation as well as the validation study are \$22,755.01.

Objective 2: An additional 7 people have attended the required 8 hours of continuing education using funding from this grant. Funds expended for this training to date \$12,787.89.

Progress: The installation of the other two 3500xL Genetic Analyzers purchased with this funding has been completed. Now that all of the 3500xL Genetic Analyzers have been installed, the system wide validation study is ongoing. This system wide validation study is including all casework analysts conducting various parts of the entire validation study. The technical leader is using all of this information to begin the system wide write up of the validation study. The technical leader continues to use overtime funds from this grant to work on this validation write up. In addition to working on the validation study, all analysts have received training from the vendor on the 3500xL Genetic Analyzers. Additionally, 7 analysts have received the required 8 hours of continuing education using this funding. Finally, a change of scope GAN and a budget modification GAN were submitted and approved. These GANs have allowed for the purchase and delivery of 2 Automates.

Grant Adjustments:

- A grant adjustment was submitted and denied requesting a change of scope for this grant. The reason for this denial was that this GAN was not necessary due to the budget modification GAN requested for the same reason. The GAN was denied on October 28, 2011 and the GAN number is 271394.
- A grant adjustment (GAN 004) was submitted and approved requesting sole source approval to purchase the Automate Express DNA Extraction System from Applied Biosystems. The approval date was November 30, 2011 and the GAN number is 271395.
- A grant adjustment (GAN 005) was submitted and approved requesting a budget modification to move funding from the other category into the equipment category so that

we could purchase two (2) Automate Express Forensic DNA Extraction Systems. The approval date was December 5, 2011 and the GAN number is 271392.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Project Activities:

GOAL 1: To increase case output and reduce turnaround time per DNA analyst.

Objective 1: All three 3500xL Genetic analyzers have been purchased, delivered, and installed. The system wide validation study on the 3500xL Genetic Analyzers has been completed. Two Automate Forensic DNA Extraction Systems were purchased and delivered to the CBI-FS Denver Laboratory. The data needed to complete the system-wide validation study is currently being obtained. The technical leader is currently working to complete the validation write up.

Objective 2: An additional 5 people have attended the required 8 hours of continuing education using funding from this grant.

Progress: The purchase and installation of all of the 3500xL Genetic analyzers obtained with these grant funds has been completed. All of the analysts within the system have completed their portion of data collection to be included in the validation write up. The system validation study, the various facility performance checks, and the individual analyst tests have all been completed and awaiting final approval by management. This is expected to be complete by July 31, 2012.

The purchase and installation of two Automate Express Forensic DNA Extraction Systems has been completed. The data is currently being obtained as necessary to complete the validation study of this instrumentation. Once this data collection is complete, the validation study will be completed and the various analysts will be trained on the use of this instrumentation.

An additional 5 individuals have obtained training using funding from this grant.

Grant Adjustments: None

FINAL REPORT

Project Summary: The original goals of this case are delineated below.

The CBI first objective in achieving the goals noted in the “FY2010 Forensic DNA Backlog Reduction Program” solicitation is to secure four 24-Capillary Genetic Analyzers. The CBI has received funding to address the expected bottleneck linked to the analyst’s initial review of the data as well as the technical reviews with its plans to bid out an expert system. Linked to this upgrade in efficiencies is a need for a more efficient Genetic Analyzer, one that will analyze more samples in a shorter time period. The 24-Capillary Genetic Analyzer meets the need for efficiency in that 24 samples can be injected at one time and a 96 well plate with only 3 injections can be completed in about 2 to 2.5 hours. In the course of a day two plates can be run and if necessary another 2 plates can be set up and run overnight. It is expected that an approximate 5% increase in case output should be anticipated with the implementation of these 24-Capillary Genetic Analyzers within the lab system. A critical piece in this process is the validation and performance checks that are a critical part of bringing a new instrument on line. Funds to assist in this process so as to reduce the need to

use regular hour time to bring these instruments on line will assist in maintaining the current pace of DNA analysis.

The second objective relative to meeting the stated goals of the 2010 DNA backlog grant solicitation is to have staff capable in knowledge, skills and ability to perform the work demanded within this discipline. A critical part of any DNA analysis is the forensic analysis of the items of evidence, the processing of the correct areas of an item of evidence to obtain useful and meaningful results. In addition, knowing how to effectively utilize the instruments, and interpret the data in light of the location of the stains, and location of trace DNA collections result in a more effective forensic analysis of any item of evidence. Well trained and informed analysts are more confident in their work and the CBI seeks to continue to provide opportunities to meet the continuing education needs of its staff. With a staff of varied knowledge and experience levels it is essential that the CBI provide each analyst with training that will meet their current needs. The CBI is requesting a portion of the grant to assist in providing the FBI QAS mandated 8 hours of annual DNA training.

GOAL 1: To increase case output and reduce turnaround time per DNA analyst.

Objective 1: To purchase and bring on line four 24-Capillary Genetic Analyzers so as to increase the number of DNA items processed per analyst per month.

Objective 2: To provide continuing education opportunities to staff in order to maintain skills and knowledge.

In addition to the original goal and two objectives approved for this grant. The CBIFS was able to obtain permission from NIJ to add an additional objective for this grant. This objective was to purchase two Automate Express Forensic DNA Extraction Systems. This new objective was approved in GAN004 and GAN005 obtained in November and December of 2011 and reported in Progress Report 3.

The CBI-FS is pleased to announce that we have successfully completed the stated objectives for this grant.

Objective 1: The CBI-FS was able to purchase four ABI 3500xL Genetic Analyzers. These instruments have been installed and the validation study is complete. This instrumentation is expected to be placed into routine casework in August 2012.

Objective 2: The CBI-FS was able to use the funding from this grant to obtain the continuing education requirements for 15 analysts.

Objective 3: The CBI-FS was able to use funding from this grant to purchase two Automate Express DNA Extraction Systems for use in our Denver Regional Facility.

Achieving these objectives has allowed us to successfully complete the overall goal of this grant: To increase case output and reduce turnaround time per DNA analyst. To support the successful outcome of this goal, the CBI-FS has reduced our average case turnaround time from 206 days at the end of reporting period 1 to 149 days for the final reporting period.

And, the CBI-FS was able to increase the average number of forensic DNA samples analyzed per analyst per month from 38 at the end of reporting period 1 to 58 for the final reporting period.

The CBI-FS wishes to thank NIJ for the ability to obtain this funding and their continued support of the CBI-FS.

FY10 Recipient Name: Connecticut Department of Public Safety

Award Number: 2010-DN-BX-K066

Award Amount: \$482,762

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goal of this grant is to purchase capital equipment, supplies, contractual services, and other items for the Division of Scientific Services to increase throughput and capacity and examine approximately 25 backlogged forensic cases

~~Objective 1: Hire four analysts to be supported by this grant (objective removed through GAN approved on May 7, 2012)~~

Objective 2: Purchase Equipment - QIAGEN, Inc. EZ1 Advanced XL Instrument (added through GAN approved on May 7, 2012)

Objective 3: Purchase Equipment - PCR Hoods (added through GAN approved on May 7, 2012)

Objective 4: Purchase Equipment - DNA server (added through GAN approved on May 7, 2012) and server rack (added through GAN approved on August 20, 2012)

Objective 5: Purchase Equipment - 7500 Real-time PCR system (added through GAN approved on May 7, 2012)

Objective 6: Purchase Equipment - 3500 Genetic Analyzer (added through GAN approved on May 7, 2012)

Objective 7: Purchase Equipment - epMotion 5075 system (added through GAN approved on May 7, 2012)

Objective 8: Purchase Supplies (STR DNA Typing Kits (Identifiler), Minifiler PCR amplification kits, and HIDI Formamide) to work backlogged cases. DESPP will work 25 cases with the seven Identifiler Kits (one case worked for every \$1,000 in Supplies requested). The Kits are used for casework and database processing. These are validated kits for forensic testing at the Division of Scientific Services (revised in GAN approved on May 7, 2012 and October 19, 2012).

Objective 9: Purchase Contractual Service - service contracts (one-year each for purchased equipment) as required for accreditation system (added through GAN approved on May 7, 2012)

Objective 10: Purchase Other items - computer analysis workstations and related software, software for DNA server and software for 3500 Genetic Analyzer system (added through GAN approved on May 7, 2012)

Objective 11: Purchase Equipment - Various equipment items: 5804 centrifuge, deep-well swinging bucket rotor, Eppendorf benchtop centrifuge, and Eppendorf thermomixers (added through GAN approved on October 19, 2012)

PROGRESS REPORT 1: October 1, 2010 - December 31, 2010

The goal of this grant is to examine about 300 forensic cases. Examination will be in both Forensic Biology and DNA with the further goal of reducing the backlog of cases in this state. To date, no progress has been made in reaching the goals of this grant and no funds from this grant have been encumbered. This grant supplies funds for the purchase of laboratory consumable supplies. At this time, none of the Supplies funds can be encumbered, since we are continuing to draw down Supplies funds from the 2008 Forensic Backlog grant and must draw

down the limited Supplies funds on the 2009 Forensic Backlog grant. The grant also will support the employment of four (4) durational scientists. We expect we will begin to encumber the personnel funds sometime in August 2011. Three durational scientists funded by National Institute of Justice grants (2008 and 2009 Forensic Backlog Grants) will exhaust the personnel funds on those grants during August 2011 and will transition to the 2010 grant at that time. The fourth position funded by the grant will be filled by transferring a laboratory technician funded by the 2008 Convicted Offender grant to this grant at the end of September 2011.

We feel that the delay in drawing down funds on this grant will be more than offset by the greater efficiency gained by the use of existing durational personnel who are processing samples at the Division of Scientific Services. In consideration of the above, grant funds will be expended by the end of the third quarter of 2011.

PROGRESS REPORT 2: January 1, 2011 - June 30, 2011

The goal of this grant is to examine about 300 forensic cases. Examination will be in both Forensic Biology and DNA with the further goal of reducing the backlog of cases in this state. To date, no progress has been made in reaching the goals of this grant and no funds from this grant have been encumbered. This grant funds the purchase of laboratory consumable supplies. We will request that the special condition hold on the supplies budget category from the 2009 Forensic Backlog grant be lifted and the limited Supplies funds will be rapidly drawn down. This will allow for access of the 2010 Forensic Backlog grant supplies funds.

The grant will also support the employment of four durational scientists. We expect to encumber Personnel funds as soon as grant funds are no longer on hold. We expect to transition three durational DNA analysts funded by the 2009 Forensic Backlog grant to the 2010 Forensic Backlog grant when the personnel funds on the current grant are exhausted in August 2011. The fourth position will be filled by transitioning a laboratory technician funded by the 2008 Convicted Offender Backlog grant to the 2010 Forensic Backlog grant at the end of September 2011.

We feel that the delay in drawing down funds on this grant will be more than offset by the greater efficiency gained by the use of existing durational personnel who are qualified to process DNA samples at the Division of Scientific Services.

In consideration of the above, the goal of the grant will easily be achieved in the 12-month period following the release of the hold funds.

PROGRESS REPORT 3: July 1, 2011 - December 31, 2011

The goal of this grant is to examine about 300 forensic cases. Examination will be in both Forensic Biology and DNA with the further goal of reducing the backlog of cases in Connecticut. To date, no progress has been made in reaching the goals of this grant and no funds from this grant have been encumbered. Grant funds were held in June 2011 before the expected transition of personnel from the 2009 Forensic DNA Backlog Reduction Program.

The grant will support the employment of four durational scientists and provide limited funds for the purchase of testing reagents.

In consideration of the above, grant funds will be expended by the end of the third quarter of 2012.

PROGRESS REPORT 4: January 1, 2012 - June 30, 2012

The initial goal of this grant was to provide salary and fringe costs to support several durational DNA scientists. Before encumbrance of any funds, the State provided funds to convert the durational scientists to permanent full-time State positions. A grant adjustment has been approved to modify the goal of the grant to purchase capital equipment for the Division of Scientific Services.

The equipment will replace aging current equipment or increase the capacity of the Division of Scientific Services to accommodate the increased number of DNA scientists expected over the next two years. In addition, a small quantity of supplies will be purchased for validation and casework processing.

It is expected that all equipment will be ordered by the end of August. The QIAGEN, Inc. EZ1 extraction robot has been received at the Division of Scientific Services and is expected to be in casework use by the end of August.

All other equipment will be installed and, if needed, validated and in use by the end of 2012.

PROGRESS REPORT 5: July 1, 2012 - December 31, 2012

Objective 2: Purchase Equipment - QIAGEN, Inc. EZ1 Advanced XL Instrument

The QIAGEN, Inc. Advanced XL Instrument has been received by the Division of Scientific Services and validation is completed for the processing of single-source samples. This validation has been reviewed and approved by the technical leader and the unit is online for single-source samples. Validation has been completed for the processing of all forensic samples on the EZ1 platform. These validation studies are under review by the technical leader at this time.

Objective 3: Purchase Equipment - PCR Hoods

The PCR hoods have been received by the Division of Scientific Services and have been placed into service. The additional PCR setup hoods have increased the capacity of the Division of Scientific Services.

Objective 4: Purchase Equipment - DNA server and server rack

The purchase order for the DNA Server has been forwarded to the Department's IT division for review, approval, and forwarding to the vendor. The server rack has been installed.

Objective 5: Purchase Equipment - 7500 Real-time PCR system

The 7500 Real-time PCR system has been received by the Division of Scientific Services. The vendor has been contacted for the scheduling of factory installation.

Objective 6: Purchase Equipment - 3500 Genetic Analyzer

The 3500 Genetic Analyzer has been received by the Division of Scientific Services. The vendor has been contacted for the scheduling of factory installation and training on the operation of the unit.

Objective 7: Purchase Equipment - epMotion 5075 system

The purchase of the epMotion 5075 system will go out to bid because of the purchase price and fact that the vendor does not have a contract with the State.

Objective 8: Purchase Supplies (STR DNA Typing Kits (Identifiler), Minifiler PCR amplification kits, and HIDI Formamide to work backlogged cases. DESPP will work 25 cases with the seven Identifiler Kits (one case worked for every \$1,000 in Supplies requested). The Kits are used for casework and database processing. These are validated kits for forensic testing at the Division of Scientific Services

The Identifiler kits have been received by the Division of Scientific Services, quality checked, and placed into service. To date, 111 cases have been worked using these kits with results reported to the requesting agency. One Minifiler PCR amplification kit and HIDI Formamide have been received. However, at this time no backlogged forensic cases that were processed with these reagents have been reported to the requesting agencies.

Objective 9: Purchase Contractual Service - service contracts (one-year each for purchased equipment) as required for accreditation system

The service contracts for the 3500 Genetic Analyzer and 7500 Real-time PCR system been purchased and married up with the appropriate units. The service contracts for the other equipment will be purchased upon receipt of billing from manufacturer.

Objective 10: Purchase Other items - computer analysis workstations and related software, software for DNA server and software for 3500 Genetic Analyzer system

The computer analysis workstations and related software have been delivered to the Division of Scientific Services but have not yet been distributed to individual DNA analysts. The 3500 software has been delivered and awaits factory installation. The server software order has been forwarded to the Division IT office for review and approval. The pipettes, vortexes, and mini-centrifuges have been received at the Division of Scientific Services and have been placed into service.

Objective 11: Purchase Equipment - Various equipment items (5804 centrifuge, deep-well swinging bucket rotor, Eppendorf benchtop centrifuge, and Eppendorf thermomixers)

The equipment has been purchased and is in routine laboratory use.

During this reporting period, significant progress has been made in meeting the goals of this grant. The purchase of Identifiler kits permitted the processing of 685 forensic and control samples from 111 backlogged cases. From these cases, 60 profiles were entered into CODIS, which resulted in the generation of 27 database hits. The majority of the equipment has been received at the Division of Scientific Services. All equipment that does not require validation or performance checks are installed and in use. The remainder of the equipment either is on order or is waiting factory installation. The current use of the QIAGEN, Inc. EZ1 has had a positive impact on the processing of single-source samples. The higher efficiency of DNA extraction on the EZ1 has reduced the quantity of hands-on time in the purification of these samples. The receipt and use of the PCR hoods, vortexes, mini-centrifuges, and pipettes either replaced obsolete equipment or increased the capacity of the Division of Scientific Services by reducing an identified processing chokepoint at the PCR setup stage of DNA processing.

Among the cases processed using supplies and equipment purchased on this grant were seven armed robbery cases. These cases were linked and were being investigated by a multijurisdictional task force as the level of violence was escalating as time passed. The DNA analysis on these cases generated two DNA hits. These hits greatly aided the investigation that resulted in the arrest of three individuals in 11 armed robberies in the greater Hartford area.

PROGRESS REPORT 6: January 1, 2013 - June 30, 2013

Objective 2: Purchase Equipment - QIAGEN, Inc. EZ1 Advanced XL Instrument

The QIAGEN, Inc. EZ1 Advanced XL Instrument is fully validated and is currently in use for the processing of forensic exemplars and all forensic evidentiary samples. The implementation of the EZ1 platform has had a measurable effect on the capacity of the DNA Section. The implementation of the EZ1 platform has completely replaced organic extraction as the laboratory's technique for DNA purification. **Objective 2 has been met.**

Objective 3: Purchase Equipment - PCR Hoods

The PCR hoods are in place and used for casework processing. **Objective 3 has been met.**

Objective 4: Purchase Equipment - DNA server and server rack

The DNA server and server rack have been installed and are in operation. The new server replaced an aging DNA server. The increased data storage capacity in the new server will allow for all archived DNA data and documents to be stored on the server. This will speed the recovery of media for any number of purposes. **Objective 4 has been met.**

Objective 5: Purchase Equipment - 7500 Real-time PCR system

The 7500 Real-time PCR system has been installed, performance-checked, and placed in use for casework processing. The additional platform has increased the capacity of the DNA Section. **Objective 5 has been met.**

Objective 6: Purchase Equipment - 3500 Genetic Analyzer

Factory installation and onsite training for the 3500 Genetic Analyzer has been completed. The technical leader is currently designing the validation study that will allow the platform to be used in casework. A two-stage validation is expected, first validation for single-source samples and then validation for forensic evidence. The two-step validation will allow for significant amounts of data to be collected from the single-source work that can be used in the forensic casework validation.

Objective 7: Purchase Equipment - epMotion 5075 system

The purchase request for the epMotion 5075 system has been forwarded to the purchasing office for approval.

Objective 8: Purchase Supplies (STR DNA Typing Kits (Identifiler), Minifiler PCR amplification kits, and HIDI Formamide to work backlogged cases. DESPP will work 25 cases with the seven Identifiler Kits (one case worked for every \$1,000 in Supplies requested). The Kits are used for casework and database processing. These are validated kits for forensic testing at the Division of Scientific Services

All supplies specified under Objective 8 have been received at the Division of Scientific Services and consumed in testing, with the exception of HIDI Formamide. During the reporting period, an additional 10 cases that were worked using these supplies had results reported to the requesting agency. It is expected that additional cases that were worked with grant-funded supplies will be completed in the next reporting period.

Objective 9: Purchase Contractual Service - service contracts (one-year each for purchased equipment) as required for accreditation system

The service contracts for the 3500 Genetic Analyzer, 7500 Real-time PCR system, and EZ1 Advanced XL have been purchased and married up with the appropriate platforms. The service contracts for the epMotion 5075 will be purchased upon receipt of the instrument.

Objective 10: Purchase Other items - computer analysis workstations and related software, software for DNA server and software for 3500 Genetic Analyzer system

The computer analysis workstations and related software have been installed in the DNA Section and have been distributed to individual DNA analysts. The 3500 software has been installed on the 3500 platform. The server software has been installed in the DNA server and is in use in the DNA Section. The pipettes, vortexes, and mini-centrifuges have been received at the Division of Scientific Services and have been placed into service in the processing of DNA casework. Forty Rainin Pipet-lite XLS pipettes have been received by the laboratory and are in routine casework use. The order for an assortment of tips and additional parts for the epMotion 5075 have been placed within the past weeks.

Objective 11: Purchase Equipment - Various equipment items (5804 centrifuge, deep-well swinging bucket rotor, Eppendorf benchtop centrifuge, and Eppendorf thermomixers)

The equipment has been purchased and is in routine laboratory casework use. **Objective 11 has been met.**

During this reporting period, significant progress has been made in meeting the objectives of this grant. Of the ten active objectives of the grant, five have been fully met and the other five are nearing completion.

The purchase of Identifiler kits and other consumable supplies has permitted the processing of 76 forensic and control samples from 10 backlogged cases. From these cases, six profiles were entered into CODIS, which resulted in the generation of two database hits.

All grant-funded equipment has been received at the Division of Scientific Services, with the exception of the epMotion 5075. All received equipment has been installed, performance-checked, and released for casework use with the exception of the 3500 Genetic Analyzer.

The current use of the QIAGEN, Inc. EZ1 has had a positive impact on the processing of all exemplar and forensic samples. The higher efficiency of DNA extraction on the EZ1 has reduced the quantity of hands-on time in the purification of these samples. The receipt and use of the PCR hoods, vortexes, mini-centrifuges, and pipettes either replaced obsolete equipment or increased the capacity of the Division of Scientific Services by reducing an identified processing chokepoint at the PCR setup stage of DNA processing.

Among the cases processed using grant-funded supplies and equipment were one homicide, two sexual assaults, and two home invasions.

PROGRESS REPORT 7: July 1, 2013 - September 30, 2013

Objective 2: Purchase Equipment - QIAGEN, Inc. EZ1 Advanced XL Instrument

The QIAGEN, Inc. EZ1 Advanced XL Instrument is fully validated and is currently in use for the processing of forensic exemplars and all forensic evidentiary samples. The implementation of the EZ1 platform has had a measurable effect on the capacity of the DNA Section. The implementation of the EZ1 platform has completely replaced organic extraction as the laboratory's technique for DNA purification. **Objective 2 has been met.**

Objective 3: Purchase Equipment - PCR Hoods

The PCR hoods are in place and used for casework processing. **Objective 3 has been met.**

Objective 4: Purchase Equipment - DNA server and server rack

The DNA server and server rack have been installed and are in operation. The new server replaced an aging DNA server. The increased data storage capacity in the new server will allow for all archived DNA data and documents to be stored on the server. This will speed the recovery of media for any number of purposes. **Objective 4 has been met.**

Objective 5: Purchase Equipment - 7500 Real-time PCR system

The 7500 Real-time PCR system has been installed, performance-checked, and placed in use for casework processing. The additional platform has increased the capacity of the DNA Section. **Objective 5 has been met.**

Objective 6: Purchase Equipment - 3500 Genetic Analyzer

Factory installation and onsite training for the 3500 Genetic Analyzer has been completed. A two-stage validation is underway. First, validation for single-source samples will be completed. Following the validation for single-source samples, the 3500 Genetic Analyzer will be used to process offender samples. The processing of several thousand offender samples will allow for significant amounts of data to be collected that can be used in the forensic casework validation. The data will be used to establish analysis thresholds, stutter cutoffs, precision, and reproducibility. At this point, the validation for casework will commence. Although the validation of the 3500 Genetic Analyzer is not completed, the purchase and ultimate use in casework of the 3500 Genetic Analyzer will enhance the DNA Section by replacing our oldest 3130, which is over 10 years old. Additional validation work will be carried out to determine the suitability of using the 3500 Genetic Analyzer and the Genemapper IDX software as an expert system to analyze offender samples. If validated, this improvement will further streamline the processing and importation into CODIS of offender samples. **Objective 6 has been met.**

Objective 7: Purchase Equipment - epMotion 5075 system

The epMotion 5075 system was delivered to the laboratory in October 2013. Validation has begun on this instrument. The first process to be validated will be the setup for human DNA quantitation using the ABI Quantifiler kit. Significant progress has been made on validating the epMotion 5075 system for quantitation with the final experiments underway at this time. The platform will also be validated for all PCR amplification setups (Identifiler Plus, Minifiler, and Y-filer). The automation of each of these steps will relieve the analyst from performing these tasks and free them to complete other duties while the instrument is operating. The result of the use of the epMotion 5075 system will be an increase in overall DNA processing capacity at this laboratory. **Objective 7 has been met.**

Objective 8: Purchase Supplies (STR DNA Typing Kits (Identifiler), Minifiler PCR amplification kits, and HIDI Formamide to work backlogged cases. DESPP will work 25 cases with the seven Identifiler Kits (one case worked for every \$1,000 in Supplies requested). The Kits are used for casework and database processing. These are validated kits for forensic testing at the Division of Scientific Services

All supplies specified under Objective 8 have been received at the Division of Scientific Services and consumed in testing of backlogged forensic cases. During the reporting period, no additional cases that were worked using these supplies had results reported to the requesting agency. One hundred and twenty one cases were worked on using reagents funded by this grant. These cases included homicides, sexual assaults, assaults, and

robberies. This work resulted in 66 forensic profiles being entered into CODIS and 29 investigations aided were generated. The results of the testing and generated hits have been reported to the requesting agencies for follow-up investigation. The funding of these supplies played a significant role in the ongoing plan to eliminate the backlog of untested forensic cases waiting DNA testing. **Objective 8 has been met.**

Objective 9: Purchase Contractual Service - service contracts (one-year each for purchased equipment) as required for accreditation system

The service contracts for the 3500 Genetic Analyzer, 7500 Real-time PCR system, EZ1 Advanced XL instrument, and epMotion 5075 system have been purchased and married up with the appropriate platforms. The existence of the service contracts has in several cases reduced the time from when an instrument was removed from service to the time that it has been repaired, performance checked, and returned to service. **Objective 9 has been met.**

Objective 10: Purchase Other items - computer analysis workstations and related software, software for DNA server and software for 3500 Genetic Analyzer system

The computer analysis workstations and related software have been installed in the DNA Section and have been distributed to individual DNA analysts. These computers replaced aging equipment or were assigned to newly hired DNA Section staff. The 3500 software has been installed on the 3500 platform and is in the validation stage. The server software has been installed in the DNA server and is in use in the DNA Section. The DNA server replaced the existing DNA server that was more than five years old. Additionally, the new server was capable of being installed as part of the Department of Emergency Services and Public Protection's computer domain, thereby increasing the connectedness of the DNA Section to departmental resources. The vortexes and mini-centrifuges have been received at the Division of Scientific Services and have been placed into service in the processing of DNA casework. These instruments both replace aging equipment and allow for an increase in the number of workstations in the DNA Section. The increase in workstations reduces several processing chokepoints. Forty Rainin Pipet-lite XLS pipettes have been received by the laboratory and are in routine casework use. They replace older pipettes and increase the total number of pipettes in service in the DNA Section. The increase in the number of pipettes has allowed for all pipettes in the DNA Section to have dedicated locations. By having all pipettes dedicated to a single location, it will be easier to determine what, if any, casework has been affected if a pipette is determined to be faulty. Pipette tips and additional parts for the epMotion 5075 have been received at the laboratory and married up with the epMotion 5075 system. The additional parts for the epMotion 5075 system will increase the flexibility of the platform, permitting the validation of more DNA processing techniques. This will increase the capacity of the DNA Section by freeing DNA analysts to complete additional tasks while the epMotion 5075 is running. **Objective 10 has been met.**

Objective 11: Purchase Equipment - Various equipment items (5804 centrifuge, deep-well swinging bucket rotor, Eppendorf benchtop centrifuge, and Eppendorf thermomixers)

The equipment has been purchased and is in routine laboratory casework use. The equipment replaced broken equipment (5804) and increased the number of workstations in the DNA Section. The introduction of this equipment has reduced DNA processing bottlenecks and increased the capacity of the DNA Section. **Objective 11 has been met.**

The primary progress made on the completion of the grant objectives centered on the receipt, installation, manufacturer training, and validation of the epMotion 5075. The instrument was received at the laboratory in October with the manufacturer's installation and training occurring soon after. In addition, the laboratory received some additional parts for the epMotion 5075, which will increase the flexibility of the platform, and a quantity of pipette tips for use on the epMotion 5075. Considerable work has been accomplished in validating the platform to perform real-time DNA quantitation using the ABI Quantifiler Duo kit. Once the platform has been validated for this task, additional validation studies will begin to permit the epMotion 5075 to perform all amplification reaction setups.

The one-year service contract for the epMotion 5075 was also purchased and married up to the platform at the laboratory.

The impact of this work will be to replace manual steps performed by DNA personnel with automation. Results from our validation study to date indicate that the epMotion 5075 does not perform quantitation setup any faster than the human scientist does, but performing the tasks on the epMotion 5075 will free the scientist to perform other tasks while the platform is running.

FINAL PROGRESS REPORT:

All ten grant objectives have been met. The completion of these objectives has greatly aided the processing of DNA in the DNA Section. Consumable supplies helped to reduce the overall forensic casework backlog as well as reducing turnaround time. The purchase of equipment has increased the capacity of the DNA Section and replaced aging or broken equipment.

The purchase of consumable supplies permitted the processing of 121 backlogged forensic cases. The alleged crimes reported in these cases ranged from homicide to property crimes. The DNA analysis from these cases resulted in 66 profiles being entered into CODIS and the generation of 29 hits. The results of all testing and the resultant hits have been reported to the requesting agencies. The processing of these cases using grant funds assisted the laboratory in the goal of eliminating the backlog of untested cases waiting for DNA testing. Additionally, the grant-funded testing permitted a more rapid return of results to the requesting agencies, aiding in the ultimate goal of justice.

This grant funded the purchase of capital equipment. All equipment has been received at the laboratory, validated, and in service with the exception of the epMotion 5075 and 3500 Genetic Analyzer. The validation of these platforms is in progress. The introduction of the equipment into casework processing has increased the capacity of the DNA Section by decreasing the number of processing chokepoints and by increasing efficiency. The largest impact upon DNA Section operations was from the introduction of the QIAGEN EZ1 extraction robots into DNA testing. This platform reduced the total time required to go from a piece of evidence to purified DNA by over fourfold and at the same time greatly reduced the hands-on analyst time freeing the analyst to perform other duties.

The receipt and use of the PCR hoods, vortexes, mini-centrifuges, and pipettes either replaced obsolete equipment or increased the capacity of the Division of Scientific Services by reducing an identified processing chokepoint at the PCR setup stage of DNA processing. Another advantage of the new equipment is the establishment of additional workstations, which will help to minimize contamination.

The purchase of computer equipment and service contracts has helped the laboratory maintain up-to-date information technologies and ensure that all scientific platforms are performing as expected.

FY10 Recipient Name: D.C. Metropolitan Police Department

Award Number: 2010-DN-BX-K108

Award Amount: \$393,960

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The MPD Crime Laboratory will use FY10 Forensic DNA Backlog Reduction grant funding for basic infrastructure support, the training of DNA laboratory personnel and outsourcing backlogged DNA cases to an accredited DNA laboratory.

The goal of outsourcing DNA testing to a fee-for-service laboratory is to reduce the number of backlogged violent crime cases in the District of Columbia. The MPD Crime Laboratory began DNA testing of all District of Columbia cases in early 2009. The cases submitted to the laboratory are considered current cases and do not include the District's existing backlog cases. MPD established a DNA cold case working group tasked with researching and identifying backlogged violent crime cases. Approximately 403 violent crime cases with biological evidence suitable for DNA testing have been identified. As of September 30, 2011 (close of DC Government FY11), DNA testing has been completed on 374 violent crime cases. At the start of the 2012 fiscal year, 29 of the original 403 violent crime backlogged cases identified in 2009 remain untested.

It is critical for the Metropolitan Police Department Crime Lab (MPDCL) to continue its participation in future NIJ DNA Backlog Reduction Programs in an effort to address the backlog of violent crime cases. The MPDCL accepts approximately 300 violent crime cases a year and is able to process approximately 200 cases a year and 80 of the 200 violent crime cases were outsourced to a contract laboratory for analysis. This leaves approximately 100 untested violent crime cases at the end of the calendar year (180 violent crime cases if no outsourcing). For these reasons, MPDCL has a critical need to continue its participation in future NIJ DNA Backlog Reduction Programs in an effort to address the backlog of violent crime cases and to continuously provide timely and quality forensic services to the District of Columbia criminal justice system.

The following goals and objectives were set for this award:

DNA Capacity Enhancement: The goal of DNA capacity enhancement is to obtain additional equipment for basic DNA analysis processes and to help the laboratory meet Federal quality assurance standards.

Basic Infrastructure Support: The MPD Crime Laboratory is requesting grant funds to acquire the following:

- a) two plate centrifuges and an incubating orbital shaker for use during the DNA analysis process
- b) two laboratory freezers for the storage of DNA extracts and DNA testing reagents
- c) temperature monitoring system for refrigerators and freezers to meet quality assurance standards.

Training: The goal of DNA training is to enhance the knowledge base of the members of the MPD Forensic Biology Unit and to meet continuing education requirements mandated by the FBI DNA Quality Assurance standards. The MPD Crime Laboratory is requesting grant funds to allow members to attend DNA and Quality Assurance conferences and/or workshops and DNA specialty courses.

Outsourcing of Backlog Cases: The goal of outsourcing DNA testing to a fee-for-service laboratory is to reduce the number of backlogged violent crime cases in the District of Columbia.

Personnel: The personnel funds will be utilized as overtime funds for nine MPD Laboratory analysts to screen DNA backlog cases. The screening process will identify items with biological material suitable for DNA testing which will then be submitted to an outsource DNA testing laboratory. The review of the outsourced DNA cases may be conducted by the MPD Laboratory analysts on an overtime basis. In some instances, MPD Laboratory analysts may perform DNA testing on DNA backlog cases.

Other: The other funds will be used for training conference/workshop registration. The conference/ workshops will enhance the knowledge base of the attendees and will conform with national quality assurance and accreditation standards. A budget modification request was approved February 7, 2012 for the procurement of GeneMapper ID-X software.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During this reporting period, the grant funds were not available for outsourcing to a fee-for-service DNA testing laboratory. When the funds become available, the vendor DNA laboratory used will be selected through the District of Columbia's competitive bid process. Currently, the MPD Crime Laboratory is evaluating backlog cases for submission to a fee-for-service DNA testing laboratory.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

A budget modification request was approved May 4, 2011. Following is the status of the approved grant budget items:

DNA Capacity Enhancement: During this reporting period, all of the above listed equipment (in the goals & objectives section) was procured by MPD Crime Laboratory. GOAL COMPLETED

Training: The DNA training opportunities are scheduled to occur next reporting period.

Outsourcing of Backlog Cases: During this reporting period, the requisition for outsourcing to a fee-for-service DNA testing laboratory was submitted. The vendor DNA laboratory used will be selected through the District of Columbia's competitive bid process. Currently, the MPD Crime Laboratory is evaluating backlog cases for submission to a fee-for-service DNA testing laboratory.

Personnel: During this reporting period, overtime funds for 9 MPD Laboratory analysts to screen DNA backlog cases was approved by NIJ in May 2011. The internal overtime authorization process is in progress.

Other: The registration associated with the DNA training opportunities are scheduled to occur next reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Training: The HID Working with Difficult Samples offered by Applied Biosystems was completed in August 2011. Promega's International Symposium on Human Identification was attended in October 2011. GOAL COMPLETED

Outsourcing of Backlog Cases: During this reporting period the District of Columbia awarded the outsourcing contract to Bode Technology on September 4, 2011. To date, 59 cases have been submitted to Bode Technology for analysis and 32 have been returned from Bode Technology.

Personnel: During this reporting period, internal overtime authorization was granted in August 2011. An additional internal overtime authorization request was submitted in October 2011 at the start of the new fiscal year and authorization was granted November 2011. To date, 11 cases have been processed for serology. During this reporting period, 9 cases were technically reviewed for CODIS eligibility. None of the 9 cases yielded CODIS eligible profiles.

Other: Promega's International Symposium on Human Identification was attended in October 2011.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Outsourcing of Backlog Cases: During this reporting period, 50 cases were submitted to Bode Technology for analysis (includes the 18 cases that screened positive for the presence of a biological fluid) and 68 cases have been returned from Bode Technology.

Personnel: During this reporting period, 26 cases have been processed for serology (18 screened positive and 8 screened negative). During this reporting period, 16 outsourced cases were technically reviewed for CODIS eligibility and 5 profiles were identified CODIS eligible. The 5 CODIS eligible profiles were uploaded into CODIS and resulted in 2 CODIS matches.

Other: During this reporting period a budget modification request was approved February 7, 2012. GeneMapper ID-X software was procured and received by the crime laboratory.

GOAL COMPLETED

Please note that the number of cases that were analyzed and delivered to the requesting agency using funding provided for overtime and outsourcing under this award was calculated by the sum of the number of outsourced cases plus the number of cases processed for serology (negative results) using overtime funding (i.e. 50 cases + 8 cases = 58 cases). The 50 cases that were outsourced include the 18 cases that yielded positive serology results (processed using overtime funding).

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Outsourcing of Backlogged Cases: During this reporting period 77 cases were submitted to Bode Technology for analysis and 86 were returned from Bode Technology.

Personnel: During this reporting period 21 cases were processed for serology (7 screened positive and 14 screened negative).

Please note that the number of cases that were analyzed and delivered to the requesting agency using funding provided for overtime and outsourcing under this award was calculated by the sum of the number of outsourced cases plus the number of cases processed for serology (negative results) using overtime funding (i.e. 77 cases + 14 cases = 91 cases). The 77 cases that were outsourced include the 7 cases that yielded positive serology results (processed using overtime funding). The crime laboratory had 1 CODIS match this reporting period. This profile was uploaded during Progress Report Period 4.

The crime laboratory began training all of the Forensic Biology casework analysts in technical reviews. It is anticipated that all of the analysts in technical review training will complete their competency test during early 2013. The crime laboratory will have more qualified analysts to address the technical review of outsourced cases.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Outsourcing of Backlogged Cases: During this reporting period 4 cases were submitted to Bode Technology for analysis and 4 were returned from Bode Technology. GOAL COMPLETED
Personnel: During this reporting period a Budget Modification was submitted to reprogram the remaining personnel balance of \$5224 to contracts (outsourcing). GOAL COMPLETED

FINAL REPORT:

The challenges faced by the crime laboratory included a move into a new state of the art laboratory facility while maintaining daily laboratory operations during this transitional period. In conjunction with this move, the crime laboratory transitioned from the governance of the police department to that of a newly created independent government agency. In addition, the laboratory had to incorporate the new laboratory enhancements into the existing procedures. During the final months of this grant period, the laboratory began accepting a wider range of felony violent crime cases. The analysts were faced with the challenges of processing the increased casework.

The laboratory successfully completed the move into the new laboratory facility while maintaining daily laboratory operations and successfully transitioned from the governance of the police department to that of a newly created government agency. The laboratory analysts were able to successfully process the increased amount of casework samples received as a result of the additional case submissions.

DNA Capacity Enhancement: The goal of DNA capacity enhancement was to obtain additional equipment for basic DNA analysis processes and to help the laboratory meet Federal quality assurance standards.

Basic Infrastructure Support: The Crime Laboratory procured the following items through the use of the grant funds:

- a) two plate centrifuges and an incubating orbital shaker for use during the DNA analysis process
- b) two laboratory freezers for the storage of DNA extracts and DNA testing reagents
- c) temperature monitoring system for refrigerators and freezers to meet quality assurance standards.
- d) two microscopes, each with an attached camera for the examination and documentation of sperm slides from sexual assault evidence.

Laboratory Impact: The acquired instrumentation allowed the analysts to process more samples per case per month. The laboratory was able to process cases more efficiently which lead to the reduction in the turn-around time for providing results to the submitting agency. In addition, due to the increase laboratory efficiency, the laboratory was able to reduce the number of backlogged violent crime cases.

GOAL COMPLETED

Training: The goal of DNA training was to enhance the knowledge base of the members of the MPD Forensic Biology Unit and to meet continuing education requirements mandated by the FBI DNA Quality Assurance standards. The MPD Crime Laboratory requested grant

funds to allow members to attend DNA and Quality Assurance conferences and/or workshops and DNA specialty courses.

- a) Applied Biosystems HID University – Working with Difficult Samples (6 analysts)
- b) Promega International Symposium on Human Identification (6 analysts)

Laboratory Impact: The analysts were able to achieve the required continuing education credits necessary to meet the national quality assurance and accreditation standards. GOAL COMPLETED

Outsourcing of Backlog Cases: The goal of outsourcing DNA testing to a fee-for-service laboratory is to reduce the number of backlogged violent crime cases in the District of Columbia.

Laboratory Impact: The laboratory outsourced 212 backlogged violent crime cases to a fee-for-service laboratory. There were 23 CODIS matches associated with the 212 outsourced backlogged violent crime cases. There has been a reduction in the total amount of backlogged violent crime cases. GOAL COMPLETED

Personnel: The personnel funds will be utilized as overtime funds for nine MPD Laboratory analysts to screen DNA backlog cases. The screening process will identify items with biological material suitable for DNA testing which will then be submitted to an outsource DNA testing laboratory. The review of the outsourced DNA cases may be conducted by the MPD Laboratory analysts on an overtime basis. In some instances, MPD Laboratory analysts may perform DNA testing on DNA backlog cases.

Laboratory Impact: During this grant period, 58 backlogged violent crime cases were processed for serology through the use of overtime grant funds. In addition, outsourced cases were technically reviewed and the identified CODIS eligible DNA profiles were uploaded into the national DNA database with a total of 23 CODIS matches. GOAL COMPLETED

Other: The other funds were used for training conference/workshop registration. The conference/ workshops enhanced the knowledge base of the attendees and to meet continuing education and accreditation requirements. A budget modification request was approved February 7, 2012 for the procurement of GeneMapper ID-X software.

Laboratory Impact: The analysts were able to achieve the required continuing education credits necessary to meet the national quality assurance and accreditation standards. The procurement of one (1) copy of the GeneMapper ID-X software permitted the laboratory to evaluate the software program prior to implementation into the laboratory and procuring additional copies. Upon completion of the software evaluation/validation process, all of the analysts used the GeneMapper ID-X software for STR analysis and interpretation.

GOAL COMPLETED

FY10 Recipient Name: Delaware Health and Social Services

Award Number: 2010-DN-BX-K057

Award Amount: \$284,323

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Basic infrastructure support.

Goal 2: To reduce the average time to complete DNA forensic sample analysis from 120 days to 90 days from case submission.

Goal 3: Reduce the casework backlog by 50%.

Goal 4: Increase the number of DNA forensic cases analyzed per DNA analyst, thus reducing future casework backlogs.

Goal 5: Eligible DNA profiles will be expeditiously entered into the State DNA Index System and the National DNA Index System.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

NOTE: As a result of the NIJ Site Visit in January 2011, it was determined that the data for TAT and SAM were neither accurate nor auditable. The beginning TAT and SAM at the beginning of the award have changed because the data captured in this report are accurate and auditable

▶ Goal 1: Basic infrastructure support.

▶ Progress: The Qiagen EZ1 Advanced XL, AB 7500 RT PCR System, and Qiagen QIAgility have not been purchased. Updated quotes have been requested and as soon as they have been received these instruments will be purchased.

▶ Goal 2: To reduce the average time to complete DNA forensic sample analysis from 120 days to 90 days from case submission.

▶ Progress: No cases were analyzed and delivered to the requesting agency using funding provided under this award.

▶ Goal 3: Reduce the casework backlog by 50%.

▶ Progress: No cases were analyzed and delivered to the requesting agency using funding provided under this award.

▶ Goal 4: Increase the number of DNA forensic cases analyzed per DNA analyst, thus reducing future casework backlogs.

▶ Progress: No cases were analyzed and delivered to the requesting agency using funding provided under this award.

▶ Goal 5: Eligible DNA profiles will be expeditiously entered into the State DNA Index System and the National DNA Index System.

▶ Progress: No cases were analyzed and delivered to the requesting agency using funding provided under this award.

NOTE: No cases were analyzed and delivered to the requesting agency using funding provided under this award.

A GAN (Project End Date) was submitted on 01/31/11 to extend the grant end date to 06/30/11. It is anticipated that the performance metrics of this grant will be met by June 30, 2011.

Drawdown of funds were frozen on 02/04/11 (ID: 236371) due to results of NIJ Site Visit (January 2011).

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

2010-DN-BX-K057 was approved by the DSCC State Clearinghouse on January 25, 2011. The Federal funds have not been drawn down by the State (DHSS) in DFMS as of January 31, 2011.

CCR Registration has not been validated as of July 20, 2011. The grantee is working with NIJ to rectify this issue.

No purchases have been made as of July 20, 2011.

In addition to funds for analysis of forensic DNA casework samples, the requested funds will be used for basic infrastructure support, to enhance the capacity of the CODIS Section, purchase Convicted Offender buccal swab collection kits, purchase hardware and software for Next Generation CODIS (CODIS 7.0), and provide training for DNA Unit personnel.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

NOTE: Funds are frozen. Therefore, analysis of cases and CODIS hits are not attributable to the awarded funding for FY10 DNA BR Program.

The CODIS Section is validating PowerPlex 18D and Bode Buccal Collectors and has not been analyzing and/or uploading database samples to CODIS since September 30, 2011.

OCME is prohibited from accessing funds by Special Condition due to DHSS (DSAMH)OIG audit prior to 7/10 that found over \$3.291 million in questioned costs. This audit hasn't been closed and as a result all funds to DHSS have been frozen until this matter has been resolved.

As per e-mail from Senior PM dated 12/13/11: Your Department had an OIG audit prior to 7/10 that found over \$3.291 million in questioned costs. This audit hasn't been closed and as a result all funds to the DE Dept of Health have been frozen. Any purchase orders, expenditures, etc that you may have made on your DNA awards (or any other awards frozen) to date would be unallowable, as you are prohibited from accessing your funds by special condition until this matter has been resolved.

Open audit report; questioned costs >\$500,000. The OIG stated the documentation provided by the grantee to support the questioned costs lacked the specificity needed to close the recommendations.

As per e-mail dated 12/15/11 from DHSS Controller:

DSAMH: OJP submitted a request to OIG to clear/settle the audit (since your November documentation submission to OJP). OIG did not agree with settling all of the items and a letter should be forthcoming next week to DHSS from OJP outlining what OIG did not approve to be cleared. DSAMH, when we get this letter, we need to expedite getting a response sent back to OJP so we can expedite bringing this audit to closure.

As of 01/19/12 there has not been any progress relayed to OCME regarding the status of the DSAMH audit and their response.

A Project Period GAN was submitted on 01/05/12.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

NOTE: Funds are frozen. Therefore, analysis of cases and CODIS hits are not attributable to the awarded funding for FY10 DNA BR Program.

OCME is prohibited from accessing funds by Special Condition due to DHSS (DSAMH)OIG audit prior to 7/10 that found over \$3.291 million in questioned costs. This audit hasn't been closed and as a result all funds to DHSS have been frozen until this matter has been resolved.

As per e-mail from Senior PM dated 12/13/11: Your Department had an OIG audit prior to 7/10 that found over \$3.291 million in questioned costs. This audit hasn't been closed and as a result all funds to the DE Dept of Health have been frozen. Any purchase orders, expenditures, etc that you may have made on your DNA awards (or any other awards frozen) to date would be unallowable, as you are prohibited from accessing your funds by special condition until this matter has been resolved.

Open audit report; questioned costs >\$500,000. The OIG stated the documentation provided by the grantee to support the questioned costs lacked the specificity needed to close the recommendations.

As per e-mail dated 12/15/11 from DHSS Controller:

DSAMH: OJP submitted a request to OIG to clear/settle the audit (since your November documentation submission to OJP). OIG did not agree with settling all of the items and a letter should be forthcoming next week to DHSS from OJP outlining what OIG did not approve to be cleared. DSAMH, when we get this letter, we need to expedite getting a response sent back to OJP so we can expedite bringing this audit to closure.

As of 07/23/12 there has not been any progress relayed to OCME regarding the status of the DSAMH audit and their response. An amended budget (July - September 2012) of ~25% of total, awarded budget was submitted to DHSS on 07/14/12 for submittal to the NIJ.

A Project Period GAN was approved on 07/06/12. New project end date: 09/30/13.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

NOTE: Funds are frozen. Therefore, analysis of cases and CODIS hits are not attributable to the awarded funding for FY10 DNA BR Program.

The CODIS Section is online with Promega PowerPlex 18D and is analyzing and uploading database samples to CODIS as of December 2012.

OCME is prohibited from accessing funds by Special Condition due to DHSS (DSAMH)OIG audit prior to 7/10 that found over \$3.291 million in questioned costs. This audit hasn't been closed and as a result all funds to DHSS have been frozen until this matter has been resolved.

As per e-mail from Senior PM dated 12/13/11: Your Department had an OIG audit prior to 7/10 that found over \$3.291 million in questioned costs. This audit hasn't been closed and as a result all funds to the DE Dept of Health have been frozen. Any purchase orders, expenditures, etc that you may have made on your DNA awards (or any other awards frozen) to date would be

unallowable, as you are prohibited from accessing your funds by special condition until this matter has been resolved.

Open audit report; questioned costs >\$500,000. The OIG stated the documentation provided by the grantee to support the questioned costs lacked the specificity needed to close the recommendations.

As per e-mail dated 12/15/11 from DHSS Controller:

DSAMH: OJP submitted a request to OIG to clear/settle the audit (since your November documentation submission to OJP). OIG did not agree with settling all of the items and a letter should be forthcoming next week to DHSS from OJP outlining what OIG did not approve to be cleared. DSAMH, when we get this letter, we need to expedite getting a response sent back to OJP so we can expedite bringing this audit to closure.

As of 01/10/13 there has not been any progress relayed to OCME regarding the status of the DSAMH audit and their response.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

NOTE: High risk designation was removed in February 2013. Special Conditions related to programmatic requirements withholding funds were removed in March 2013.

► Goal 1: Basic infrastructure support.

► Progress: 2 Qiagen EZ1 Advanced XLs have been purchased and installed.

Performance checks and training of analysts is in process. It is anticipated that these instruments will be online by December 2013.

1 Life Technologies 7500 RT PCR System has been purchased and installed. Validation of the 7500 RT PCR System and quantitation kits (Life Technologies, Promega, and Qiagen) is in process. It is anticipated that the 7500 RT PCR System and applicable quantitation kit will be online by December 2013.

Grant funding was used to purchase validation supplies:

<i>Promega Plexor® HY System (200 reactions) – 2 kits</i>
<i>Quantifiler DUO DNA Quantitation Kit – 3 kits</i>
<i>AmpFliSTR® Yfiler® PCR Amplification Kit – 3 kits</i>
<i>Applied Biosystems 7500 Spectral Dye Calibration Kit – 1 kit</i>

NOTE: Validation of a Y-STR system is scheduled for August 2013 (comparison of Life Technologies and Promega Y-STR kits).

► Goal 2: To reduce the average time to complete DNA forensic sample analysis from 120 days to 90 days from case submission.

► Progress: The average time to complete DNA forensic sample analysis has decreased 36.1% (from ~ 135 days to 103 days). The goal of reducing the TAT to 90

days has been achieved in 48 of the 84 (57%) cases finalized during this report period.

► Goal 3: Reduce the casework backlog by 50%.

► Progress: The backlog has increased since the last reporting period by 46.9%. This is due to the fact that one Forensic DNA Analyst was on FMLA and one Forensic DNA Analyst was taken off of casework to validate the 7500 RT-PCR System and quantitation kits. The OCME DNA Unit has a case assignment prioritization scheme and the number of backlogged No Suspect cases has increased due to the assignment of higher priority Suspect cases.

► Goal 4: Increase the number of DNA forensic cases analyzed per DNA analyst, thus reducing future casework backlogs.

► Progress: 4 Forensic DNA Analysts were assigned 6 cases (6 Suspect) every other month and one Forensic DNA Analyst was assigned 8 cases (No Suspect) every other month. Due to the loss of 2 analysts (FMLA and Validation) the case backlog (Suspect and No Suspect) has increased since the last reporting period. The number of cases assigned will be increased in the next reporting period to 10 cases (8 Suspect and 2 No Suspect) every other month to reduce the backlog in both Casework and CODIS Sections.

► Goal 5: Eligible DNA profiles will be expeditiously entered into the State DNA Index System and the National DNA Index System.

► Progress: Eligible DNA profiles were uploaded to SDIS/NDIS within 5 days of receipt of the DNA profile (after case review).

Grant funding was used to purchase supplies for casework (QCed and in use):

<i>EZ1 DNA Investigator Kit (48)</i>
<i>Promega PowerPlex 16 Kit (400 reactions)</i>
<i>Promega PowerPlex Matrix Standards (3130)</i>
<i>Applied Biosystems Capillary Array (3130)</i>
<i>Applied Biosystems TAQ Gold (12 pack)</i>
<i>Applied Biosystems 10X Genetic Analyzer Buffer (25 mL)</i>
<i>Applied Biosystems POP-4 Polymer (3130)</i>
<i>HI-DI Formamide (25 mL)</i>

NOTE: EZ1 DNA Investigator Kits have been purchased and will be used on casework once the EZ1s are online. The kits are currently being used for training of analysts.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

► Goal 1: Basic infrastructure support.

► Progress: 2 Qiagen EZ1 Advanced XLs have been purchased and installed.

Performance checks and training of analysts is in process. It is anticipated that these instruments will be online by December 2013.

1 Life Technologies 7500 RT PCR System has been purchased and installed. Validation of the 7500 RT PCR System and quantitation kits (Life

Technologies, Promega, and Qiagen) is in process. It is anticipated that the 7500 RT PCR System and applicable quantitation kit will be online by December 2013.

Grant funding was used to purchase validation supplies:

<i>Promega Plexor® HY System (200 reactions) – 2 kits</i>
<i>QuantiFiler DUO DNA Quantitation Kit – 3 kits</i>
<i>AmpFℓSTR® Yfiler® PCR Amplification Kit – 3 kits</i>
<i>Applied Biosystems 7500 Spectral Dye Calibration Kit – 1 kit</i>

NOTE: Validation of a Y-STR system is in progress (Promega Y23).

- ▶ Goal 2: To reduce the average time to complete DNA forensic sample analysis from 120 days to 90 days from case submission.
 - ▶ Progress: The average time to complete DNA forensic sample analysis has increased 37% (from ~ 103 days to 141 days). This is due to removing one Forensic DNA Analyst from casework to perform the Y-STR validation as well as two Supervisors only reviewing. The goal of reducing the TAT to 90 days has been achieved in 18 of the 51 (35%) cases finalized during this report period.
- ▶ Goal 3: Reduce the casework backlog by 50%.
 - ▶ Progress: The backlog has increased since the last reporting period by 33.33%. This is due to removing one Forensic DNA Analyst from casework to perform 7500 RT-PCR System and Y-STR validations as well as two Supervisors only reviewing. The OCME DNA Unit has a case assignment prioritization scheme and the number of backlogged No Suspect cases has increased due to the assignment of higher priority Suspect cases.
- ▶ Goal 4: Increase the number of DNA forensic cases analyzed per DNA analyst, thus reducing future casework backlogs.
 - ▶ Progress: The number of cases assigned was increased in this reporting period to 10 cases (8 Suspect and 2 No Suspect) every other month to reduce the backlog in both Casework and CODIS Sections.
- ▶ Goal 5: Eligible DNA profiles will be expeditiously entered into the State DNA Index System and the National DNA Index System.
 - ▶ Progress: Eligible DNA profiles were uploaded to SDIS/NDIS within 5 days of receipt of the DNA profile (after case review).

Grant funding was used to purchase supplies for casework (QCed and in use):

<i>EZ1 DNA Investigator Kit (48)</i>
<i>Promega PowerPlex 16 Kit (400 reactions)</i>
<i>Promega PowerPlex Matrix Standards (3130)</i>
<i>Applied Biosystems Capillary Array (3130)</i>
<i>Applied Biosystems TAQ Gold (12 pack)</i>

<i>Applied Biosystems 10X Genetic Analyzer Buffer (25 mL)</i>

<i>Applied Biosystems POP-4 Polymer (3130)</i>
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<i>HI-DI Formamide (25 mL)</i>

NOTE: EZ1 DNA Investigator Kits have been purchased and will be used on casework once the EZ1s are online. The kits are currently being used for training of analysts.

FINAL REPORT:

▶ Goal 1: Basic infrastructure support.

▶ Progress: 2 Qiagen EZ1 Advanced XLs have been purchased and installed.

Performance checks and training of analysts are complete. It is anticipated that these instruments will be online by December 2013.

1 Life Technologies 7500 RT PCR System has been purchased and installed. Validation of the 7500 RT PCR System and quantitation kits (Promega –Plexor) is complete. It is anticipated that the 7500 RT PCR System and applicable quantitation kit will be online by December 2013.

Grant funding was used to purchase validation supplies:

<i>Promega Plexor® HY System (200 reactions) – 2 kits</i>

<i>QuantiFiler DUO DNA Quantitation Kit – 3 kits</i>
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<i>AmpFℓSTR® Yfiler® PCR Amplification Kit – 3 kits</i>

<i>Applied Biosystems 7500 Spectral Dye Calibration Kit – 1 kit</i>

NOTE: Validation of a Y-STR system is in progress (submitted for TL review) -Promega Y23.

▶ Goal 2: To reduce the average time to complete DNA forensic sample analysis from 120 days to 90 days from case submission.

▶ Progress: The average time to complete DNA forensic sample analysis has increased 25.48 (from ~ 97.23 days to 122 days). This is due to removing analysts from casework to perform the validation studies, installation and implementation of new instruments and technology, and loss of staff due to FMLA. The goal of reducing the TAT to 90 days has been achieved in 42.8% cases finalized during this grant period.

▶ Goal 3: Reduce the casework backlog by 50%.

▶ Progress: The backlog has increased since the last reporting period by 88%. This is due to removing analysts from casework to perform the validation studies, installation and implementation of new instruments and technology, and loss of staff due to FMLA. The number of cases received at the OCME has increased ~40% since 2010.

▶ Goal 4: Increase the number of DNA forensic cases analyzed per DNA analyst, thus reducing future casework backlogs.

- ▶ Progress: The number of cases assigned has been increased to 10 cases (8 Suspect and 2 No Suspect) every other month to reduce the backlog in both Casework and CODIS Sections.
- ▶ Goal 5: Eligible DNA profiles will be expeditiously entered into the State DNA Index System and the National DNA Index System.
 - ▶ Progress: Eligible DNA profiles were uploaded to SDIS/NDIS within 5 days of receipt of the DNA profile (after case review).

Grant funding was used to purchase supplies for casework (QCed and in use):

<i>EZ1 DNA Investigator Kit (48)</i>
<i>Promega PowerPlex 16 Kit (400 reactions)</i>
<i>Promega PowerPlex Matrix Standards (3130)</i>
<i>Applied Biosystems Capillary Array (3130)</i>
<i>Applied Biosystems TAQ Gold (12 pack)</i>
<i>Applied Biosystems 10X Genetic Analyzer Buffer (25 mL)</i>
<i>Applied Biosystems POP-4 Polymer (3130)</i>
<i>HI-DI Formamide (25 mL)</i>

FY10 Recipient Name: Palm Beach County Sheriff's Office, Florida

Award Number: 2010-DN-BX-K078

Award Amount: \$403,372

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: Continue federal grant support for two Forensic Scientists in the Forensic Biology Unit (FBU) to reduce the backlog through increased casework productivity
- Goal 2: Validation of the two Qiagen EZ XL which are bench-top mini-robots capable of conducting extraction analysis on 14 samples.
- Goal 3: Validation of two Eppendorf ThermoMixers needed for the heating and shaking of the evidentiary samples.
- Goal 4: The PBSO FBU implemented an In-House Document scanning Initiative in 2009 to reduce the storage issues associated with the excessive number of FBU quality, policy and technical manuals, casework files and validation data that is routinely requested for discovery.
- Goal 5: Validation of GeneMapper ID-X
- Goal 6: Purchase the Qiagen QIA SP Symphony liquid handler (added 11/30/11 GAN #6)

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- Goal 1: Currently the 2 analysts are supported through a 2009 Backlog Reduction Grant. It is anticipated that the 2009 Backlog Reduction Funds requested to support two DNA analysts will be exhausted in March, 2011. The 2010 Backlog Reduction monies will then be used to maintain the salaries and benefits of these two analysts at this time.

In October of 2010, the two Forensic Scientists successfully passed the PBSO FBU DNA Laboratory Bench Practicum, the written Comprehensive DNA Examination and the court mock trial. Both of the analysts 2010-DN-BX-K078 3 have been assigned and have completed their first external proficiency examination as per FBI Quality Assurance Standards. The analysts have each been partnered with a Senior Scientist for the next three months and have been assigned their first DNA cases. The two FS accomplished the following casework analysis:

# Submissions	# Items Worked	# Stains tested	Stains w/ DNA	Active Cases	DNA Reports Out	NO-Suspect Cases	Average Turn Around Time-days
39	55	68	49	5	14	5	60

Goal 2: 2 Qiagen EZ XL robots were ordered in November. These robots will be installed in January and undergo a performance check as per FBI Quality Assurance Standards in May when two interns begin their internships.

Goal 3: Two Eppendorf Thermomixers were ordered in November. These mixers feature quick heat-up and cooling rates for increased throughput, digital display of all parameters, a short-mix function for vortex applications, and programmable intermittent mixing. These mixers were selected because they are able to shake and heat simultaneously which is necessary for both EX+Z1XL and PrepFiler extraction methods. These thermomixers will undergo a performance check as per FBI Quality Assurance Standards in May when two interns begin their internships.

Goal 4: This is a continuation of the paper-less initiative from the 2009 Backlog Reduction Grant. The contracted temporary employees had a background check completed before initiating the scanning process. There is an existing indexing station provided by PBSO. All documents have been scanned as per the current protocol designed and developed specifically for FBU documents. In this grant period over 2,300 casefiles have been scanned.

The documents will be surveyed and quality controlled for accuracy and quality. The electronic documents will be secured on a PBSO server.

Eventually, all hard copies will be destroyed as the Florida statutes allow electronic copies of originals to maintain the original status.

Goal 5: The GeneMapperID-X training recently conducted in the PBSO FBU has demonstrated that there are many useful modules available in this software product than what is currently available in GeneMapper ID. This includes that identification of samples within the GeneMapper® ID-X project that are eligible for Mixture Analysis whereby samples are assessed according to sample type, analysis status and allele label status. The program categorizes and segregates eligible samples by the minimum number of contributors contained in each sample (1, 2, or 3 or more contributors) thus improving the time and interpretation inclusion and exclusion consistency. This program extracts and separates contributor profiles into individual major and minor genotype combinations for all markers present. (2 contributors only) and filters known profiles from selected sample profiles (2 contributors only) and importantly, calculates statistics using population databases stored within the software. The PBSO database can be imported for use in the statistics module. Up to

15 clients can be supported on the existing GMID-X full station. In order to accommodate all of the analyst and the workstations, the following list summarizes the computers in need of GMID-X.

GenemapperID-X Client software licenses - 13

- These licenses have been ordered and the software received.
- Installation will be forth-coming
- The following thirteen (13) computers will need a copy of the GMID-X software program:
 - FBU Manager 1
 - CODIS Administrator 1
 - Sr. Forensic Scientists 5
 - Forensic Scientist 6

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: The two analysts were supported through a 2009 Backlog Reduction Grant. The 2009 Backlog Reduction Funds requested to support two DNA analysts were exhausted in March, 2011 and since this time the analysts have been supported by the 2010 Backlog Reduction monies. The analysts are conducting independent casework. The following metrics accomplished by the two analysts include testing from March 15th through June 30th:

# Submissions	# Items Worked	# Stains tested	Stains w/DNA	Active Cases	DNA Reports Out	NO-Suspect Cases	Average Turn Around Time-days
190	376	451	275	57	80	29	83

It is important to note that one of the analysts is mentoring a summer intern from Marshall University. The project includes the validation of GeneMapper IDX and ARMEDEExpert mixture deconvolution software. The PBSO NIJ supported analyst wrote the manual for the USACIL mixture software when she was employed at NIST prior to her hire at PBSO and as a result has been spending a significant amount of time monitoring the project.

- Goal 2: Two Eppendorf Thermomixers were ordered in November and have been received. These thermomixers are undergoing a performance check in tandem with the Qiagen EZ1 instruments. The results obtained to date demonstrate that the thermomixers are performing optimally and appropriately. More validation studies are underway.
- Goal 3: This is a continuation of the paper-less initiative from the 2009 Backlog Reduction Grant. In this current grant period over 8,600 casefiles have been scanned. The individual conducting the scanning process has designed and presented an initiation powerpoint training module to all of the FBU staff in anticipation of using the scanned documents for discoveries etc.
- Goal 4: An intern from Marshall University has initiated her internship project of validating GenemapperID-X Client software licenses. Validation of GeneMapper ID-X (GMID-X) began May 20, 2011 utilizing the raw data from the original validation of PBSO's 3130xl. As of June 28, 2011 the following studies have been completed: known samples and stutter, non-probative, reproducibility, precision, sensitivity and stochastic, mixtures, NIST, contamination and analytical threshold. The validation will continue with the re-analysis of the raw data obtained from the performance

check of PBSO's second 3130xl. Upon completion of GMID-X's validation for use during routine casework, the program will also be validated as an expert system using the PowerPlex16 amplification kit and 3130xl platform. The expert system portion of GMID-X will be validated by running more than 500 single source samples through the software and determining the applicable peak quality values for the laboratory. The expert tool portion of GMID-X will also be evaluated for its use in deconvoluting two and three-person DNA mixtures.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Currently the two analysts were originally supported through a 2009 Backlog Reduction Grant. It is anticipated that the 2010 Backlog Reduction Funds requested to support two DNA analysts will be exhausted in March, 2012. The 2011 Backlog Reduction monies will then be used to maintain the salaries and benefits of these two analysts at this time. The two Forensic Scientists have successfully passed all external proficiencies and continue to analyze casework evidence. These two analysts each report out more cases on a monthly basis than the rest of the staff. Interestingly, the number of reports completed has decreased slightly because the Forensic Biology Unit has initiated a new mixture deconvolution worksheet. The rules are based on the *SWGDM Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Testing Laboratories* published in January 2010. The two FS accomplished the following casework analysis.

	# Submissions	# Items Worked	# Stains tested	Stains w/DNA	Active Cases	DNA Reports Out	NO-Suspect	Average Turn Around Time-days
							Cases	
Jan-Jun 2011	256	499	581	354	74	74	38	77
Jul-Dec 2011	189	444	793	533	99	93	50	76
TOTAL 2011	445	943	1374	887	173	167	88	77

Goal 2: The EZ1-C and EZ-1 D performance checks were completed by a summer intern as previously reported. The final evaluation of the data and implementation of the EZ1-C and EZ1-D instruments was in August, 2011

The AB 7500 performance checks were completed by a summer intern as previously reported. The final evaluation of the data and implementation of the AB7500 instrument was in October, 2011

Goal 3: Validation of the two Eppendorf ThermoMixers was successfully completed.

Goal 4: This is a continuation of the paper-less initiative from the 2009 Backlog Reduction Grant. All documents have been scanned as per the current protocol designed and developed specifically for FBU documents. Between July 1 and December 31st, 2011:

Approximately

4,900+ casefiles were scanned

4,000+ DNA Allele profile Datasheets were scanned (StarCall)

The documents will be surveyed and quality controlled for accuracy and quality. The electronic documents will be secured on a PBSO server. Eventually, all hard copies will

be destroyed as the Florida statutes allow electronic copies of originals to maintain the original status.

Goal 5: The GeneMapperID-X software was validated by an intern from Marshall University over the 2011 summer. The final data was recently collated and presented for the interns Masters Degree thesis project. GeneMapper ID-X and ArmedXpert are two software tools available to assist with DNA mixture interpretation. This project focused on the applicability of using these tools for DNA mixture interpretation through examination of mixture calculations, mixture deconvolution of two and three-person mixtures and statistical estimates of combined probability of exclusion and likelihood ratio. Varying mixture ratios were utilized to research the ability of each software tool to perform reliable mixture calculations. GMID-X was also be evaluated for its use as an expert system for single source samples. The intern provided critical validation data regarding the feasibility of using GeneMapperID-X on routine casework then secondarily conducted an inordinate number of studies to ascertain the Expert System component of the software.

This data is still being summarized and it is anticipated that the analyst will be using the analysis function of the software in 2012. The reason the implementation was significantly longer than anticipated is as follows:

In 2010:

- GMID is a standalone software package. In order to review other analyst's data project files need to be export onto a common network and imported into the software.
- GMID- Service pack upgrades prevent analysts from seeing other analyst's raw data. (Causes a break in the file pile for original analysis).
- Location of where the 3130xl network drive is mapped can prevent analyst's form seeing other analyst's raw data.
- Agency begins installing Windows operating system 7 on new computers.
- Spoke with ABI tech support about our networking issues- suggested to purchase GMIDX software. This software houses projects in a database- all client computers can see project files in database. This removes the necessity to export and import data. Were told by ABI that GMIDX is compatible with Windows 7.
- Purchase and receive GMIDX software in December of 2010.

In 2011:

- March install the full server installation suite on a dedicated "server" laptop. Prepare GMIDX software for arrival of intern. Laptop has Windows XP as operating System.
- May graduate intern arrives to conduct GMIDX validation.
- IS attempts to install Client version of GMIDX software on second analyst computer (computer has windows XP as operating system). Client version GMIDX cannot see the GMIDX server- IS loads full installation software on second analyst computers. Two computers cannot talk to each other.
- May – July graduate intern performs validation of GMIDX v1.2
- July TL returns from maternity leave. Investigates why client software cannot see server laptop. Received two different versions of GMIDX software. Full installation suite is v. 1.1 client versions is 1.2. As per ABI the full installation software and client GMIDX software must be the same version.
- August- ABI sends the 1.2 upgrade for the GMIDX full installation software.

- September- IS upgrades the GMIDX version on the sever laptop. Attempt to install GMIDX on TL computer. Version 1.2 is not compatible with Windows 7. Contact ABI; working on a fix no time line for new version.
 - December receive v1.3 upgrade of GMIDX Full installation Suite and Client Software.
- 2012

- Decide to halt review of GMIDX validation. Will need to conduct a PC of version 1.3 and Sorenson Forensic Scheduled to arrive in Feb. to Validate YSTRs and PP16 on the 9700. Will be repeated 90% of what was done in the GMIDX 1.2 validation. Sorenson Forensics will be using GMIDX version 1.3 for validation analysis.
- January- IS upgrades server laptop to Windows 7 and successfully installs GMIDX software. 1.3 client version of software is installed on TL computer. Client and server can see each other. TL will test software. Will notify IS when to begin installing IDX on remaining computers.

Goal 6: Funds to assist in the purchase of the Qiagen QIA SP Symphony liquid handler were obtained through a Budget Modification GAN. Purchase is anticipated in early 2012.

FINAL REPORT

Goal 1: Continue federal grant support for two Forensic Scientists in the Forensic Biology Unit (FBU) to reduce the backlog through increased casework productivity.

PROGRESS: The 2010 Backlog Reduction Funds requested to support two DNA analysts were exhausted in March, 2012. The two analysts had been supported by the 2010 DNA Backlog Grant from approximately April, 2011 through March 31 2012. During this time period the two Forensic Scientists successfully passed all external proficiencies, annual bloodborne pathogen and court testimony monitoring and continue to analyze casework evidence. One of the analysts has also successfully passed the American Board of Criminalistics Molecular Biology Certification Examination and the second analyst has an examination date secured for April, 2012.

In addition, both analysts presented at the February Florida Forensic Symposium in Miami including a picture on DNA room temperature storage and GeneMapperID-X/ArmedXpert software programs. One of the analysts was also a mentor to a Marshall University intern during the 2011 summer internship program.

These two analysts each report out a significant portion of the overall Forensic Biology Unit casework. The following metrics were generated over the regarding the amount of casework analysis conducted by the two grant-supported analysts:

April 11, 2011 through March 31, 2012	# Submissions	# Items Worked	# Stains tested	Stains w/DNA	Active Cases	DNA Reports Out	NO-Suspect	Average Turn Around Time-days
							Cases	
Analyst #1	401	737	886	558	105	121	54	78
Analyst #2	261	444	570	399	84	87	41	89
TOTAL	662	1181	1456	957	189	208	95	83

Goal 2: Qiagen EZ-1 - to increase the DNA extraction efficiency of the laboratory by purchasing two additional EZ1 robots. The two EZ1 robots were purchased and placed in the center of the lab proper in order for all analysts to have access. In addition, during the sample processing, the reason PBSO implemented the use of the EZ1 was to offer an alternative to using the 96-well BioMek robotic format when fewer than 14 samples need to be extracted.

The validation of the EZ1 XL and the Thermomixers over the past year has demonstrated the robot to be easy to use, reliable and sensitive. The expected results have been that the addition of the EZ1 instruments and Thermomixers have increased the efficiency of analyzing small numbers of samples and emergency cases.

PROGRESS: Purchased, received, performance checked and in use.

Goal 3: Eppendorf Thermomixers

The Thermomixer R, is a system that had previously been validated in-house for the existing EZ-1 instruments, and used for simultaneous mixing and temperature control. The thermomixers offers counter- cooling ability which provides efficient cooling. As a result, the temperature control functions and range of applications has been more diverse. The thermomixers are used in conjunction with the existing EZ1 protocols.

PROGRESS Purchased, received, performance checked and in use.

Goal 4: The PBSO FBU implemented an In-House Document scanning Initiative in 2009 to reduce the storage issues associated with the excessive number of FBU quality, policy and technical manuals, casework files and validation data that is routinely requested for discovery. To alleviate some of the cost and burden of retrieving documents from the contracted storage facility of Iron Mountain, the Forensic Sciences Division purchased a high volume movable shelving system and all of the DNA casefiles and validation books have been retrieved from Iron Mountain and are now stored in the new CaseFile room. However, this room is shared by the other seven disciplines thereby making this a finite space with limited capacity. The Forensic Sciences Division purchased a high quality high speed Image Formula DR-9080C with Capture Perfect software and an hp psc 750XI system which is for scanning and archiving *documents to the secure designated server*. In addition, Microsoft Photo Editor is used to adjust the contrast and brightness for optimum reproduction of the documents

PROGRESS: This is a continuation of the paper-less initiative from the 2009 Backlog Reduction Grant. All documents have been scanned as per the current protocol designed and developed specifically for FBU documents. Between the time the grant monies were available for this project (April, 2011) through the end of the grant (March 31, and February 13th 2012 when the 2010 Backlog budget for this project was exhausted, the following was accomplished:

Casefiles scanned:	9,503
Starcall project scans:	4000

Goal 5: Validation of GeneMapper ID-X Licenses:

STATUS: Purchased, received, validated and loaded onto analysts laptops.

Issues with the implementation of the GMID-X software which has prevented its use for casework to date:

2010

- GMID is a standalone software package. In order to review other analyst's data project files need to be exported onto a common network and imported into the software.
- Windows service pack upgrades prevent analysts from seeing other analyst's raw data. (Causes a break in the file path of original analysis).
- Location of where the 3130xl network drive is mapped can prevent analysts from seeing other analyst's raw data.
- Agency begins installing Windows operating system 7 on new computers.

- Spoke with ABI tech support about our networking issues- suggested to purchase GMIDX software. This software houses projects in a database- all client computers can see project files in database. This removes the necessity to export and import data. Were told by ABI that GMIDX is compatible with Windows 7.
- Purchase and receive GMIDX software in December of 2010.

2011

- March install the full server installation suite on a dedicated “server” laptop. Prepare GMIDX software for arrival of intern. Laptop has Windows XP as operating system.
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- July TL returns from maternity leave. Investigates why client software cannot see server laptop. Received two different versions of GMIDX software. Full installation suite is v. 1.1 client versions is 1.2. As per ABI, the full installation software and client GMIDX software must be the same version.
- August- ABI sends the 1.2 upgrade for the GMIDX full installation software.
- September- IS upgrades the GMIDX version on the sever laptop. Attempt to install GMIDX on TL computer. Version 1.2 is not compatible with Windows 7. Contact ABI; working on a fix no time line for new version.
- December receive v1.3 upgrade of GMIDX Full installation Suite and Client Software.

2012

- Decide to halt review of GMIDX validation. Will need to conduct a PC of version 1.3 and Sorenson Forensics is scheduled to arrive in Feb. to validate YSTRs and PP16 on the 9700. Will be repeating 90% of what was done in the GMIDX 1.2 validation. Sorenson Forensics will be using GMIDX version 1.3 for validation analysis.
- January- IS upgrades server laptop to Windows 7 and successfully installs GMIDX software. 1.3 client version of software is installed on TL computer. Client and server can see each other. TL will test software. Will notify IS when to begin installing IDX on remaining computers.
- February 29, 2012-Sorenson on site to conduct validation of PP16 and 9700. Validation Data analyzed on GMIDX v1.3. Validation of GMIDX v1.3 is underway.
- Will install GMIDX on analyst’s computer upon completion of validation.

Goal 6: Purchase the Qiagen QIA SP Symphony liquid handler

The Qiagen QIA SP Symphony liquid handler has been purchased and is on-site

FY10 Recipient Name: Miami Dade Police Department, Florida

Award Number: 2010-DN-BX-K081

Award Amount: \$1,023,044

Final Report:

Goal 1: Increase the laboratory's capacity to analyze DNA samples

Objective A: Purchase (30) desktop computers for Forensic Biology Section personnel in preparation for a more automated DNA workflow and new LIMS.

COMPLETED

Objective B: Purchase (2) Qiagen EZ1 Advanced XL (with 3 year warranty) automated extraction instruments. COMPLETED

Objective C: Purchase (4) Eppendorf Shaking Incubators to assist in prepping samples for EZ1 instruments. COMPLETED

Objective D: Continue funding the (1) Criminalist, (1) Police Property and Evidence Specialist (PPES) and (1) Forensic Photographer positions. COMPLETED

Objective E: Purchase (25) Qiagen EZ1 Investigator test kits for the purpose of validating the EZ1 Advanced XL instruments and the EZ1 Investigator test kits themselves. COMPLETED

Objective F: Purchase (3) Identifiler Plus, (4) Quantifiler and (2) Quantifiler Duo test kits for use in validation projects. (added via a Budget Modification GAN – January, 2013) COMPLETED

Goal 2: Reduce the number of backlogged DNA cases awaiting analysis

Objective A: Outsource approximately 1,082 cases to a commercial vendor laboratory for STR analysis. COMPLETED

Objective B: Provide overtime funding for Criminalists to screen cases for potential biological material, prepare and review cases to be outsourced, review DNA data returned by the commercial vendor laboratory and enter qualifying profiles into CODIS. COMPLETED

Goal 3: ~~Provide continuing education opportunities for Criminalists in the Forensic Biology Section as required by the FBI DNA Standards for Forensic DNA Testing Laboratories~~

~~Objective A: Fund on-site Y-STR training for 16 Criminalists conducted by the Marshall University Forensic Science Center. (removed via a Budget Modification GAN – January, 2013)~~

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Progress - 3 vendors have been invited to give updated presentations about their LIMS products to ensure that the MDPD Crime Laboratory is fully informed about the components and features available in the most current state-of-the-art systems.

Information obtained from several vendors' prior presentations on their LIMS products was consolidated into a Business Case that was submitted to the Miami-Dade County Information Technology Investment Review Committee that reviews all large Information Technology purchases. The funding from this FY2010 award is an essential component of the submitted Business Case. The review process lasts four to six months, and must be followed to obtain approval to expend the FY2010 award funds for the purpose of purchasing the LIMS.

The MDPD Crime Laboratory has also received permission from the Miami-Dade County Information Technology Leadership Council to concurrently proceed with the formulation of a Request for Proposals (RFP) document to be published for the open, competitive bidding

process. Responding vendors will submit their comprehensive LIMS proposals to the MDPD Crime Laboratory for evaluation of required specifications, expandability and cost-effectiveness.

Comments – The MDPD Crime Laboratory expects the approval and RFP processes will be completed by summer, 2011. The purchase and implementation of the new LIMS will greatly increase the efficiency of the evidence submission process, streamline casework analysis documentation and generate automated reports to improve overall case management. These are expected in turn to increase the laboratory's DNA sample throughput, lower its case turnaround time and decrease its DNA case backlog.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Progress: The MDPD Forensic Services Bureau (FSB) contracted with an outside vendor that has expertise in computer programming and laboratory information management systems (LIMS). This contracted programmer integrated technical criteria obtained from laboratory personnel in order to formulate the necessary Request for Proposal (RFP) specifications, including system hardware, architecture and network compatibility. This process will ensure the new LIMS that is chosen, purchased and installed will fully meet the needs of the MDPD and FSB. The programmer, working for the FSB, must collaborate with multiple bureaus within the MDPD including the Information Technology Services Bureau (ITSB) in order to ensure proper functionality and integration with all entities that will be affected by the installation and use of the new LIMS. Once the RFP has been authored it must be reviewed by Miami-Dade County procurement personnel before being published. The FSB anticipates that this process will be completed within the next few months.

Comments: The current closeout date for this award is March 31, 2012. The FSB will submit a Change Project Period GAN in order to extend the project period.

All funds for this award are currently allocated to cover the purchase of, and installation costs associated with, the new LIMS. The contracted programmer is being funded via the FY 2009 Forensic DNA Backlog Reduction Program award. However, in order to best utilize the funds from this award, the FSB plans to submit a Budget Modification GAN for this award as well as the anticipated FY 2011 Forensic DNA Backlog Reduction Program award. These budget modifications will allow the FSB to use FY 2010 funds for costs associated with the initial stages of the LIMS implementation and ensure that remaining funds from this award will be spent in a timely manner on other approved expenditures.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Progress: The contracted programmer with expertise in computer programming and laboratory information management systems (LIMS) assembled all necessary information needed in formulating the Request for Proposal (RFP). The RFP has been authored and delivered to Miami-Dade County procurement personnel for review. The review process should conclude by February, 2012 at which time the RFP will be published with a set date in which bidders must return their proposal. Shortly thereafter, responding vendors should begin submitting their comprehensive LIMS proposals to the MDPD Forensic Services Bureau (FSB) for evaluation of required specifications, expandability and cost-effectiveness. The FSB hopes to identify a vendor and award the contract during the next reporting period.

Comments: All funds for this award are currently allocated to cover the purchase of, and installation costs associated with, the new LIMS. The contracted programmer was funded

via previous awards. However, in order to best utilize the funds from this award, the FSB plans to submit a Budget Modification GAN for this award as well as the FY 2011 Forensic DNA Backlog Reduction Program award. These budget modifications will allow the FSB to use FY 2010 funds for costs associated with the initial stages of the LIMS implementation and ensure that remaining funds from this award will be spent in a timely manner on other approved expenditures. The FSB anticipates submitting both of these Budget Modification GANs in January, 2012.

The current closeout date for this award is March 31, 2012. In order to extend the project period the FSB will submit a Change Project Period GAN (with associated spending plan) for this award in February, 2012.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Progress: As stated in the previous progress report, the RFP for the new LIMS has been authored and delivered to Miami-Dade County procurement personnel for review. The review process has taken longer than expected but is ongoing.

The two Qiagen EZ1 Advanced XL instruments were purchased and have been received by the Forensic Services Bureau (FSB). EZ1 Investigator test kits were also purchased in preparation for validating both the EZ1 instruments and the Investigator test kits themselves. The validation of the AmpFISTR Identifiler Plus DNA amplification kit was nearly completed and is scheduled to be introduced into the FSB's DNA workflow on August 1, 2012.

When the FY 2009 Forensic DNA Backlog Reduction Program award concluded on March 31, 2012, the funding of the Criminalist, Forensic Photographer and Police Property and Evidence Specialist (PPES) transitioned to this award. The hiring process for the second grant-funded Criminalist began with candidates being selected and interviews being scheduled for July, 2012.

The required Conference and Events Approval form for the in-house Y-STR course was submitted and approved. The contract process with the Marshall University Forensic Science Center began and the FSB anticipates the course being conducted in either September or October, 2012.

A total of 949 cases were outsourced to the commercial vendor laboratory with 424 cases having been returned and reported. The result was an overall decrease of 414 cases in the DNA case backlog, a 27% reduction. Prioritizing review of data from outsource cases funded via the FY 2009 Forensic DNA Backlog Reduction Program award and then an issue with the vendor laboratory's CODIS upload form lead to no profiles (and thus no hits) being entered into CODIS as a result of funding via this award. The FSB anticipates reporting numerous profiles entered and hits obtained during the next reporting period for this award. In-house, the grant-funded Criminalist concluded her DNA training in April, 2012. As of June 30, 2012 she had completed 33 DNA cases and entered 34 profiles into CODIS which resulted in 5 CODIS hits.

Comments: All funds for this award were originally allocated to cover the purchase of, and installation costs associated with, the new LIMS. The process of procuring the new LIMS has proven to be lengthy as it involves various Miami-Dade County departments, chains of command and reviews. In the interest of the timely and efficient utilization of award funds, the FSB submitted a Budget Modification GAN for this award as well as the FY 2011 Forensic DNA Backlog Reduction Program award. These budget modifications resulted in

changes being made to the goals for this award; the Goals and Objectives section of this Progress Report form have been updated to reflect these changes.

The DNA case turnaround time and backlog both witnessed decreases during this reporting period. However, the number of items analyzed per analyst per month also decreased. The reason for this decrease is twofold. First, the five DNA trainees concluded their training and became DNA case-working analysts. Initially, Criminalists are given a lighter caseload when they begin fully (to include serology and DNA analysis) processing a Forensic Biology case. This resulted in a decrease of the overall average number of items analyzed per all analysts per month. Secondly, two Criminalists resigned and additional time was required of senior analysts in order to review all of the cases remaining in these two Criminalists' completed case queue.

The closeout date for this award was extended to March 31, 2013. However, the FSB hopes to expend all funds, not related to salaries, well in advance of this new award end date.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Progress: The validation of the AmpFISTR Identifiler Plus DNA amplification kit was completed and introduced into the Forensic Service Bureau's (FSB) DNA workflow on August 1, 2012. The validations of the Qiagen EZ1 Advanced XL instruments and the Qiagen EZ1 Investigator test kits are being performed in tandem and were nearly completed; the FSB anticipates bringing both on-line by April 1, 2013. The four shaking incubators that complement the EZ1 Advanced XL instruments were purchased and received by the FSB.

Budget Modification GANs were submitted and approved in July and November, 2012. This resulted in the Project Goals and Objectives being modified and these changes are reflected in this Progress Report. The 30 desktop computers, originally included on the FY 2011 DNA Backlog Reduction Program award, were transferred to this award. These 30 computers were purchased and have been received by the FSB. The new Laboratory Information Management System (LIMS), which was to be funded by this and the FY 2011 award, is now to be funded entirely by the FY2011 Forensic DNA Backlog Reduction Program award.

The grant-funded Criminalist, Forensic Photographer and Police Property and Evidence Specialist (PPES) were all funded entirely by this award during this reporting period. The Criminalist continued to prove to be a productive and valuable addition to the FSB by completing 59 DNA cases. This casework led to 88 profiles being entered into CODIS which resulted in 17 CODIS hits. The Forensic Photographer and the PPES continued to prove very beneficial in helping to create a more efficient and complete Forensic Biology Section. Due to circumstances within Miami-Dade County, the hiring process for the second grant-funded Criminalist had to be indefinitely suspended.

A total of 665 outsourced cases were returned, reviewed and reported to the submitting agency. Although these cases, along with the 424 from the previous reporting period, yielded 492 qualifying CODIS profiles, only 147 had been uploaded to CODIS as of December 31, 2012. The 88 CODIS hits generated is sure to increase when the remaining 345 DNA profiles are entered into CODIS.

Comments: All remaining funds for this award, not related to salaries, were expended during this reporting period. The one outstanding objective, funding an on-site Y-STR training for 16 Criminalists conducted by the Marshall University Forensic Science Center, was transferred to the FY 2012 Forensic DNA Backlog Reduction Program award via a Budget Modification GAN submitted in January, 2013.

Again, the new, state-of-the-art, comprehensive LIMS that was originally to be funded via this award, is now to be funded entirely by the FY 2011 Forensic DNA Backlog Reduction Program award. This project is currently in the custody of the Miami-Dade County Internal Services Department and is progressing. A review of the LIMS project timeline will be conducted during an on-site NIJ audit in February, 2013.

A monthly casework quota was enacted and this aided in increasing the number of items analyzed per analyst per month from 26 to 30. As of October 1, 2012 the DNA case backlog had been reduced further from 1,116 cases to 1,063 cases even though the final batch of DNA cases outsourced by the FSB in 2012 was shipped in August. As a result of this, the backlog witnessed a net increase of 68 cases for the entire reporting period. Outsourcing was halted due to the fiscal year contract expenditure amount set by Miami-Dade County with the vendor laboratory having been met; outsourcing will resume during the next semi-annual reporting period. The DNA case turnaround time increased modestly from 139 days to 149 days. This was mostly due to administrative reviews of casework taking a little extra time during the holiday season which was in part related to the DNA report template being modified.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Progress: The validation of the AmpFISTR Identifiler Plus DNA amplification kit was completed during the previous reporting period. This allowed for emphasis to be placed on completing the validations of the Qiagen EZ1 Advanced XL instruments and the Qiagen EZ1 Investigator test kits. As of March 31, 2013, all validation data had been compiled and the project summary written. Authoring the standard operating procedures, along with the review and approval of the entire project remained before both could be introduced into the FSB's DNA workflow.

A Budget Modification GAN was submitted and approved in January, 2013. This resulted in the Project Goals and Objectives being modified and these changes are reflected in this Progress Report. This GAN allowed the FSB to purchase DNA test kits for use in validation projects.

The grant-funded Criminalist, Forensic Photographer and Police Property and Evidence Specialist (PPES) were all funded entirely by this award during this reporting period. The Criminalist continued to prove to be a productive and valuable addition to the FSB by completing 46 DNA cases which resulted in 44 profiles being entered into CODIS. During this reporting period, casework she completed utilizing funding from this award generated 21 CODIS hits. It is to be noted that the 46 cases she completed is 50% above and beyond her casework quota for this three month timeframe. The Forensic Photographer continued to photograph each evidence package upon submission, as well as photographed individual evidence items upon a Criminalist's request. The PPES also continued to prove very beneficial in helping to create a more efficient operation. In addition to coordinating outsource casework shipments, she has completely reorganized the evidence storage and retrieval process within the Section resulting in a much more efficient and effective process.

During this reporting period, funding of outsourced casework transitioned to the FY 2011 Forensic DNA Backlog Reduction Program award; only 27 cases were returned, reviewed and reported to the submitting agency utilizing funds from this award. However, outsourced casework previously funded by this award resulted in 417 profiles uploaded to CODIS and 286 hits.

Comments: The FSB completed the final purchases for this award during this reporting period. The one outstanding objective, funding an on-site Y-STR training for 16 Criminalists conducted by the Marshall University Forensic Science Center, was transferred to the FY 2011 Forensic DNA Backlog Reduction Program award via a Budget Modification GAN submitted in January, 2013.

The monthly casework quota continued and the casework metrics showed improvements in two areas as a result. The number of items analyzed per analyst per month increased from 30 to 31. The DNA case turnaround time decreased from 149 days to 141 days.

The DNA case backlog temporarily increased from 1,184 cases to 1,317 cases. This is because shipments of outsource casework were halted at the beginning of 2013 as a result of meeting the maximum expenditure amount allocated on the Miami-Dade County contract with the vendor laboratory. The DNA case backlog consists almost entirely of property crime cases to be outsourced. The FSB resumed outsource shipments after this reporting period at a rate of 300 items (approximately 120-150 cases) per month. The FSB plans to maintain this monthly rate until at least March, 2014; the DNA case backlog should steadily decrease as a result.

FINAL REPORT:

The Miami-Dade Police Department (MDPD) Forensic Services Bureau (FSB) provides forensic services to all local municipal law enforcement agencies as well as the unincorporated areas of Miami-Dade County. The FSB continually strives to improve upon these services and the funds awarded by the National Institute of Justice (NIJ) with this FY 2010 Forensic DNA Backlog Reduction Program award have been utilized with two main goals as the focus in directing these efforts.

Originally, the FSB identified a single goal for this award which was to select, purchase and install a new state-of-the-art laboratory information management system (LIMS). This goal remains for the FSB. However, the \$1,023,044 allocated for the LIMS has been transferred and will now be split between the FY 2011 Forensic DNA Backlog Reduction award (\$87,408) and the FY12 award (\$935,636). This action was necessary as the time required to accomplish this goal exceeded the FY 2010 Forensic DNA Backlog Reduction award period.

The dual goals of this FY10 award then became reducing the FSB's backlog of DNA cases awaiting analysis and increasing its in-house capacity for DNA analysis. In order to reduce the DNA backlog, current property crimes cases as well as cold sexual battery and homicide cases were outsourced to a commercial laboratory utilizing funds from this award. Criminalists were paid overtime in order to screen and prepare selected cases that were then outsourced to the vendor laboratory. The commercial laboratory conducted the STR analysis on these cases, and then returned all casework documentation and DNA profile data in an electronic format suitable for technical review. Utilizing overtime funds, FSB Criminalists reviewed this data and qualifying DNA profiles were entered into CODIS.

The FSB has contracted with the commercial laboratory for \$190 per item analyzed. This relatively low cost was made possible by providing the commercial laboratory with samples that were ready for STR analysis and did not require additional serological screening. In addition to the actual analysis of the evidence items, the outsource

laboratory also provides a court-ready report and any required court testimony. This annual contract was renewed and became effective on June 1, 2013.

When this award period began on October 1, 2010, the FSB reported 1,238 backlogged DNA cases. The majority of these cases were current property crime cases suitable for outsourcing. Funding from this and previous awards enabled FSB Criminalists to screen casework evidence and send selected items to a commercial laboratory for DNA analysis. The backlog fluctuated during the award period, and as of March 31, 2013, it was at 1,317 cases. This is a slight increase from the beginning of the award period. However, an unavoidable delay in the outsourcing of casework led to a DNA case backlog of 1,889 cases on March 31, 2012. The FSB was able to reduce its backlog from 1,889 to 1,317 cases (a 30% reduction) in one year. The FSB is currently outsourcing DNA casework at a rate of 300 items (approximately 120-150 cases) per month. The FSB plans to maintain this monthly rate until at least March, 2014; the DNA case backlog should steadily decrease as a result.

In addition to outsourcing being temporarily halted, the FSB dealt with the loss of personnel. During the award period a total of six Forensic Biology staff members left the FSB for various reasons. This included the Laboratory Manager, the Police Property and Evidence Specialist (PPES) who served as the outsource coordinator and four fully trained DNA analysts. The loss of these key personnel both directly and indirectly affected the DNA case backlog in an adverse manner.

In summary, 1,116 DNA cases were analyzed and the results delivered to the requesting agency via funding from this award. These 1,116 cases generated 564 profiles that were entered into CODIS and, to date, have produced 374 CODIS hits. Thus 51% of the cases that were outsourced yielded profiles that were uploaded to CODIS and, so far, 66% of those profiles have generated hits.

The second goal for the FSB with this award was to increase its capacity for in-house DNA analysis. The FSB added two Qiagen EZ1 Advanced XL automated DNA extraction instruments, along with four related shaking incubators. Supplies for both on-going and completed validation projects were purchased. The Forensic Biology Section received brand new computers which provided increased data storage and processing capabilities. These additions directly and/or indirectly are helping to create a more efficient and automated DNA workflow.

The FSB has benefited from personnel additions as well that were funded via this award. The Criminalist completed her training in a relatively short amount of time and is a fully trained case working DNA analyst. The Forensic Photographer continued to aid in documentation by photographing each evidence package upon submission and, when requested, photographed individual evidence items during analysis. The Police Property and Evidence Specialist (PPES) position has benefited the Forensic Biology Section in a tremendous way. The flow of evidence into and out of the Forensic Biology Section is now a much more organized and efficient process and no longer the responsibility of the Criminalists. She also coordinates the shipments of outsource casework which are now totaling 300 items per month.

The FSB reports its DNA analysis capacity to NIJ over the course of the award by keeping track of the number of items analyzed per DNA analyst per month. It also reports the average number of days between the submission of a sample to the laboratory and the delivery of test results to the requesting agency. When this FY10 award began on

October 1, 2010, these numbers were 28 items and 123 days, respectively. As of the end of the award period on March 31, 2013, the FSB reported an improvement in the number of items analyzed per analyst per month at 31 items. The number of days to deliver test results increased slightly. However, this was due to the previously mentioned temporary halt in outsourcing casework (which has resumed at a steady rate and volume), as well as staffing changes.

The Miami-Dade Police Department (MDPD) Forensic Services Bureau (FSB) has paid invoices for all obligated funds from this FY 2010 Forensic DNA Backlog Reduction Program award. Remaining funds primarily represent UAP fees that are automatically applied to all purchase orders issued under Miami-Dade County contracts. The UAP fees applied to federally funded purchases are reimbursed, but some of these funds that were reimbursed could not be obligated before the end of the award period. The laboratory has received all instrumentation, equipment and supplies. All invoices have been paid in full and the final financial reports have been completed.

The MDPD FSB wishes to thank NIJ for these award funds that have enabled the FSB to better serve, and greatly aid in the safety of, the citizens of Miami-Dade County.

FY10 Recipient Name: Florida Department of Law Enforcement

Award Number: 2010-DN-BX-K101

Award Amount: \$3,460,812

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal #1: Use of overtime funds for reducing the backlog and turnaround times.
- Goal #2: Use of travel funds for continuing education of its laboratory members so that they will stay abreast of the current literature, advances and trends within their discipline.
- Goal #3: (3) EZ1 Advanced XL robots; (3) Thermoshakers with Thermoblocks; (3) Liquid handlers
~~(1) 7500 Real Time PCR system which will allow for real time PCR quantitation of DNA on forensic DNA analysis. (2) centrifuges~~
- Goal #4: Use of funds for expendables, reagents, chemicals, disposables and supplies will be used to support Biology/DNA service casework in FDLE regional crime laboratories statewide, allowing for the reduction of the backlog and turnaround times.
- Goal #5: Use of contractual funds for outsourcing casework to approved private laboratories which will allow FDLE to continue to reduce DNA backlogs and provide more efficient DNA services. Funds will also be used to complete annual maintenance of Biology/DNA equipment, as well as provide upgrades to the LIMS system.
- Goal #6: FDLE will use funds for registration fees, training workshops, and other professional meetings. FDLE also plans to use funds for the purchase of Genemapper ID software as well as an Oracle license.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1: Funds have not yet been expended at this time.

Goal #2: Funds have not yet been expended at this time.

- Goal #3: Funds have not yet been expended at this time.
- Goal #4: Funds have not yet been expended at this time.
- Goal #5: Funds have not yet been expended at this time.
- Goal #6: Funds have not yet been expended at this time.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Goal #1: Funds have not yet been expended at this time.
- Goal #2: Funds have been expended and drawn down for the Bode conference and DNA mixture workshop.
- Goal #3: Funds have not yet been expended at this time. A GAN will be submitted to move funds from equipment to outsourcing.
- Goal #4: Funds for expendables have not yet been expended at this time. A programmatic GAN lifting the special condition that withholds funds for supplies was created on 7/15/2011.
- Goal #5: Funds have been expended and drawn down for LIMS maintenance. A programmatic GAN lifting the special condition that withholds funds for outsourcing was created on 7/15/2011.
- Goal #6: Funds for an Oracle license have been expended during this reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Goal #1: In August 2011, the FDLE began to fully utilize funding for overtime for its Crime Lab Analysts and Forensic Technologists in an effort to reduce the backlog and turnaround times. Additionally, as part of the allotment in this award's personnel category, the FDLE has been able to fund work for an OPS Forensic Technologist
- Goal #2: During this reporting period, the FDLE has expended funds in its travel category in order to provide laboratory members with an opportunity for continuing education within the biology discipline. Members were able to attend the Midwestern Association of Forensic Scientists, The Southern Association of Forensic Scientists, Promega, and BODE conferences.
- Goal #3: During this reporting period, Goal # 3 has been changed and is now reflected in the above *Goals and Objectives* section. The centrifuges and 7500 will no longer be purchased with funding from this award and a GAN was submitted in July to eliminate all equipment. A recent decrease in supply funds has enabled the agency to allow for the budgeting of an EZ1 Advanced XL robot, Thermoshaker w/ Thermoblock, and Liquid Handler that will be purchased for the Tallahassee, Pensacola, and Ft. Myers regional laboratories. Funding will be drawn for the robots early in the next reporting period.
- Goal #4: Funding has been steadily used during this reporting period for expendables, reagents, chemicals, disposables and supplies. In November, it was decided that the focus for the supply category would be on kits, and a GAN was submitted in order to reduce the supply budget. It is the FDLE's intention that all future supply orders with 2010 funding would be limited to kit purchases only. This will allow for greater ease in supply budget management across the six regional labs as well as provide a more complete picture when reporting casework related performance metrics, as kits are easily tracked.

Goal #5: The use of contractual funds for outsourcing began this reporting period. Four of FDLE's regional laboratories have utilized the services of its two approved vendors, with the goal of reducing DNA backlogs and providing more efficient DNA services. The FDLE has also used funds during this reporting period for the Applied Biosystems and Biomek yearly maintenance.

Goal #6: During this reporting period, the FDLE has used funds for registration fees for the Midwestern Association of Forensic Scientists, Southern Association of Forensic Scientists, and Promega conferences.

Optional Metric: N/A was reported for the Optional Metric as all fully funded analysts also utilized federally funded supplies and overtime to work cases.

PROGRESS REPORT 4: January 1, 2012 – May 31, 2012

Goal #1: The FDLE continued to use Overtime funds in all regional laboratories. The FDLE was also able to fund two Forensic Technologists in the Jacksonville and Pensacola regional laboratory. There was an overestimation of funds needed in the personnel category, so a budget GAN was created in March in order to shift funds to equipment needs.

Goal #2: During this performance period, funds were used in the travel category in order to attend the AAFS conference. Travel costs were overestimated during the initial grant writing process, as the FDLE adhered to strict State of Florida policies when traveling. As a result, funds had to be shifted from the travel category to the equipment category in a budget modification GAN that was submitted March 2012.

Goal #3: During this reporting period, the FDLE requested budget GAN's in order to add Thermal Cyclers, Microcentrifuges, Franek UPS, a Sperm Scope, UV Crosslinkers, Thermalmixers, and Centrifuges. The Quiagen sole source GAN was approved during this period, but the amount of Qiagility liquid handlers had to be reduced due to an issue with the vendor and delivery time. All equipment has been purchased and this goal has been completed.

Goal #4: The FDLE has continued to expend funds for reagents in order to support Biology/DNA service casework. The FDLE statewide laboratory system went through a shift from using cofilier/profiler kits to using Identifiler kits. As a result, a GAN was submitted during this period to move funds from the over-budgeted Personnel and Travel categories to purchase additional Identifiler kits.

Goal #5: The FDLE did not send out any casework during the Jan-May 2012 reporting period, but it did use grant funds to pay for cases sent out during the last reporting period. The outsourcing objective of this grant for the 2010 DNA grant was completed during this reporting period, and the outsourcing budget was completely expended. Annual maintenance for scopes, Hood inspections, Pipette calibrations, and LIMS upgrades were all completed during this performance period.

Goal #6: The FDLE has drawn funds for registration to the AAFS and Bode Conference during this reporting period. The quarterly payment for the Oracle license was paid, as was the payment for the Genemapper ID software.

Optional Metric: N/A was reported for the Optional Metric as all fully funded analysts also utilized federally funded supplies and overtime to work cases.

FINAL REPORT:

Goal #1: Beginning in August 2011, the FDLE utilized Overtime funds in all regional laboratories. The FDLE was also able to fund three Forensic Technologists in the Jacksonville, Orlando, and Pensacola regional laboratory. There was an overestimation of funds needed in the personnel category concerning overtime due to a significant loss of personnel, so a budget GAN was created in March in order to shift funds to equipment needs.

Goal #1 has been achieved.

Goal #2: 2010 grant funds were utilized for travel to the AAFS, MAFS, SAFS, Promega, and Bode conferences. Funds were also used for training at the DNA Mixture workshop. Travel costs were overestimated during the initial grant writing process, as the FDLE adhered to strict State of Florida policies when traveling. As a result, funds had to be shifted from the travel category to the equipment category in a budget modification GAN that was submitted March 2012.

Goal #2 has been achieved.

Goal #3: The FDLE made changes to its equipment budget as a result of major shift in what supplies the agency would allow to be purchased with grant funds. The AB7500 was removed and an EZ1 Advanced XL robot was added. The Qiagen sole source GAN was approved during the final performance period, but the amount of Qiagility liquid handlers had to be reduced due to an issue with the vendor and delivery time. All equipment was purchased before the grant's end date, though invoicing was not completed until the liquidation period began.

Goal #3 has been achieved.

Goal #4: In November 2011, the FDLE decided to focus its grant funded supply purchases on kits only. The intention was to allow for greater ease in supply budget management as well as provide a more complete picture when reporting casework related performance metrics, as a method for tracking kits was already in place. In the final performance period, the FDLE statewide laboratory system went through a shift from using cofiler/profiler kits to using Identifiler kits. As a result, a GAN was submitted during this period to move funds from the over-budgeted Personnel and Travel categories to purchase additional Identifiler kits. The supply budget has been completely expended.

Goal #4 has been achieved.

Goal #5: The outsourcing of casework has been an invaluable tool for the FDLE statewide laboratory system, and the agency has fully expended all funds budgeted to outsourcing. The FDLE has also fully expended funds for its LIMS maintenance/upgrades and its Applied Bio and Biomek maintenance.

Goal #5 has been achieved.

Goal #6: The FDLE has drawn funds for registration for all approved travel listed in the budget narrative. The quarterly payment for the Oracle license was paid in the final performance period, as was the payment for the Genemapper ID software.

Goal #6 has been achieved

Optional Metric: N/A was reported for the Optional Metric as all fully funded analysts also utilized federally funded supplies and overtime to work cases.

Additional notes: Despite the agency's best efforts and the full utilization of funding provided by the 2010 DNA Backlog Reduction grant, the FDLE did experience a slight increase in the number of backlogged cases over the grant's lifetime.

The FDLE experienced a major loss of personnel during this grant period. The Pensacola laboratory alone lost a significant amount of personnel, including its Forensic Chief which slowed productivity.

Training issues due to major technological advancements may have also contributed to the increased backlog. The entire FDLE statewide laboratory system transitioned from the Cofiler/Profiler to the Identifiler kits.

FY10 Recipient Name: St. Lucie County Sheriff's Office, Florida

Award Number: 2010-DN-BX-K092

Award Amount: \$120,404

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The Indian River Crime Laboratory (IRCL) intends to achieve three goals with the use of this funding.

- Goal 1: Decrease the average workday turnaround time (AWDT) and slow the increasing backlog. This will be accomplished by equipment and software purchases that will further streamline a new workflow process.
- Goal 2: Maintain the required continuing education requirements for its 4 DNA analysts by utilizing funds to attend professional meetings within their discipline.
- Goal 3: Maintain the current number of caseworking analysts (4) in the Forensic Biology Section (added March 1, 2012, GAN 6).

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: No funds have been expended during the progress period. IRCL has been working closely with its parent organizations IT department to obtain the necessary configurations and quotations for the replacement of six aging workstations. It is anticipated that these will be ordered in late January 2011.

Goal 2: No funds have been expended during this reporting period. Analysts are evaluating upcoming educational opportunities to best fit their training needs and knowledge base. As opportunities approach, arrangements will be made for attendance at that time.

Noteworthy: It is noted that the Forensic Biology Unit experienced an increase of 4 days in its AWDT and a decrease of 6 samples / analyst / month. This is common for the timeframe of the reporting period as it encompasses the seasonal timeframe of increased planned absence from the laboratory. This is expected to be a temporary occurrence rather than a trend.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: During this reporting period six aging computers were replaced with in the Forensic Biology Section helping to standardize the section with the rest of the laboratory and its existing LIMS system. Currently, the section is re-evaluating its needs and capabilities for implementation of future projects.

Goal 2: In May, a DNA analyst attended training at a professional conference allowing him to maintain his continuing education requirements governed by the FBI. Future educational opportunities are being planned for the remaining DNA analysts.

Noteworthy: For the second consecutive reporting period, an increase in the AWDT has been recorded. It is believed this may be caused by older cases, previously lacking information, are moving to the examination phase and being completed. On average, cases that lack

communication or information, increases the turnaround time by as much as 344 days. This, along with efforts to remove cases no longer actively involved in the criminal justice system, assisted in reducing the backlog by 11% (66 cases) compared to last reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: During this period the IRCL was able to purchase several key components to its sections infrastructure. With this funding the Forensic Biology Section was able to maintain service contracts on its most critical instrumentation used in casework including: amplification, quantitation and CE instrumentation; three robotic systems; temperature monitoring system; LIMS and evidence documentation systems. These contracts have already proved helpful as one of the sections evidence documentation system is out of service and currently being replaced by the company. To further streamline processes, IRCL has purchased additional amplification instruments that will allow concurrent preparation of samples for the sections two CE instruments, upgraded the computer system of a plate loading liquid handler to allow easier procedure programming and upgraded the central high throughput printer used for much of the required file documentation. The section has also ensured continuing quality through the purchases of filters for the clean hoods used during DNA extraction and upgrades for its barcode label makers for compatibility with current IT systems.

Goal 2: Preparations have been made for two additional analysts to attend the upcoming American Academy of Forensic Sciences in February 2012. The fourth DNA analyst was able to attend and meet the continuing education requirements mandated by the FBI through a free training. This will allow any unexpended funds in these categories to be applied toward remaining projects (using proper GAN procedures) that will further enhance and streamline casework analysis, thereby continuing to address IRCL's backlog and service to its customers.

Noteworthy: Again this quarter, the IRCL has experienced an increase in the AWDT for a completed case and a decrease in the number of samples/analyst/month. In regards to the AWDT this is still believed to be caused by cases that have not had sufficient information to go forward with testing until recently. When these types of cases are taken into account the AWDT averages 154 days. As for the number of samples per analyst worked, the decline is due to this quarters metric is based on extraction of case submitted samples only. Therefore it does not include the required controls (i.e. blanks, standards, proficiency and quality control samples) necessary for meeting current Quality Assurance Standards set forth for Internationally Accredited, CODIS participating laboratories. These controls account for over 33% of the samples that are required to be run prior or along casework and if considered (as they were in previous quarters) the average number of samples/analyst/month would be 23 samples.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: During this period two computer workstations and an additional LIMS user license was purchased. One computer replaced an aging workstation that was being used to transfer casework related data from the amplification room to the sections interpretation room. The second workstation and user license was for a new grant funded analyst (see Goal 3).

Goal 2: In February, two DNA analysts attended the American Academy of Forensic Sciences. Attendance at this professional conference enabled both analysts to maintain the continuing education requirements governed by the FBI. Additionally, the professional gathering provided an opportunity for networking with other forensic practitioners as well as manufacturers of industry related instrumentation and supplies.

Goal 3: With this funding the laboratory began training a grant funded analyst in April 2012. The analyst is an experienced forensic biologist that had recently relocated to the area. This allowed the laboratory to accelerate the training program. As of the end of this reporting period the analyst has completed the biological screening portion of the training program and is currently working toward the completion of the DNA analysis portion of the training.

Noteworthy: In the first quarter of the year, it was necessary for the Laboratory to transfer an analyst from the Forensic Biology Section to the Drug Chemistry Section. This combined with resources allocated to on-going validations and analyst training has made it difficult for the IRCL Forensic Biology Section to keep up with the in-coming caseload. As a result, the laboratory has experienced a significant decrease in the number of samples / analyst / month and an increase in its backlog and turnaround time. In an effort to address the loss of an analyst in the section, the IRCL applied for a GAN in February to reallocate funds to support the salary and benefits of a new analyst (with prior experience). This has resulted in an additional goal to be added to this award – see page 4. The *Optional* metric reflects the number of cases attributed to the federally funded analyst. At the conclusion of this performance period the analyst has successfully completed the serological portion of the laboratory's training and is on-line screening casework as they complete the DNA analysis portion of the training.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: *Decrease the average workday turnaround time (AWDT) and slow the increasing backlog.*

The IRCL completed its final equipment purchase of a digital camera for evidence documentation. Although this purchase completed the budgeted expenditures, the laboratory continues to have a significant average work day turnaround time. As mentioned in previous reports, it is still believed a significant factor in this increase is due to the concerted effort to work older, yet still active, backlogged cases. An additional contributing factor was the need to redirect resources during the training of the new DNA analyst.

Goal 2: *Maintain the required continuing education requirements for its 4 DNA analysts*
This goal was completed in the January – June Progress report (4).

Goal 3: *Maintain the current number of caseworking analysts (4) in the Forensic Biology Section*
Funds provided through this award were used to provide salary and benefits for a new DNA analyst from April 1 through mid-September 2012. Subsequent award funds have been utilized to continue the salary and benefits through the remaining of the reporting period (2011-DN-BX-K476 and 2012-DN-BX-0072). During this reporting period, the analyst completed a total of 34 cases resulting in 17 CODIS eligible profiles and 1 CODIS hit. Due to the use of federal funds for supplies (amplification / quantitation kits) under grant 2011-DN-BX-K476 and continued funding through subsequent grants many

of these cases, as well as the all of the uploadable profiles and hits have already been accounted for in another metric/report, therefore the *Optional* metric will only reflect the number of cases (6) the analyst completed, uploadable profiles (0) and resulting hits (0) while funded under this grant that have not already been counted in any previous metric.

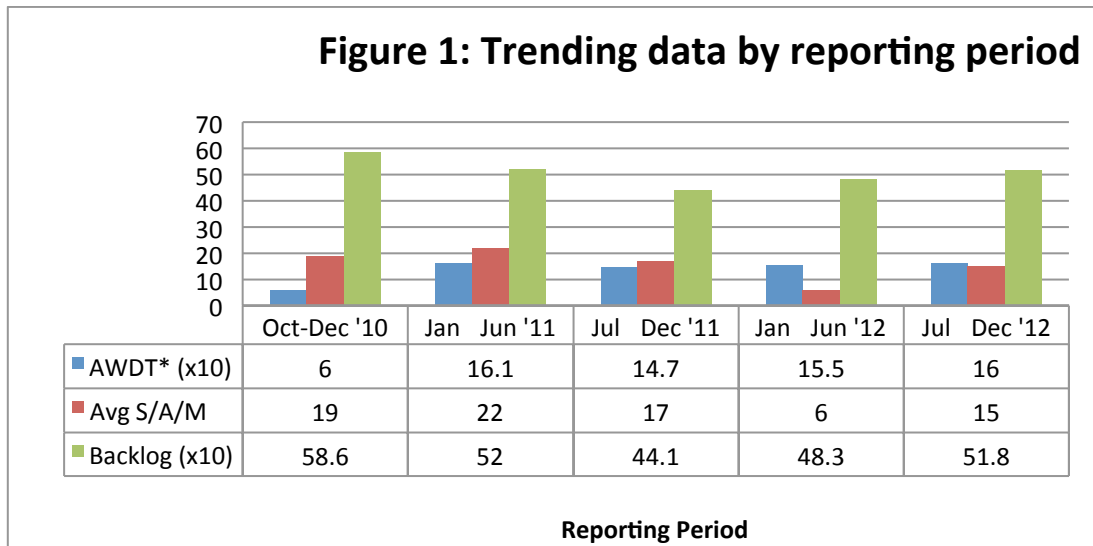
Noteworthy: Through further clarification from the NIJ's DNA Program Office the method for determining the average work day turnaround time has been modified. The time frame of collection has been shortened from one year to the length of the current reporting period. The initial metric as well as the current reporting period have been adjusted. Please note that the starting measurement of the AWDT is inflated due to it encompasses a large number of older cases that were previously outsourced but reported out in that time period. This is further discussed in the final report.

FINAL REPORT:

The Indian River Crime Laboratory (IRCL) proposed to use funding from this grant to increase the Forensic Biology Sections capacity and reduce the number of DNA cases awaiting analysis. This was expected to be accomplished by completing the following three goals over the life of the grant:

- 1- Decrease the average workday turnaround (AWDT) and slow the increase in the backlog through equipment and software purchases to complement a new workflow process.
- 2- Seek ideas for continual improvement by meeting the continuing education requirements mandated by the FBI Quality Assurance Standards for 4 analysts.
- 3- Maintain the number of caseworking DNA analysts at 4

Goal 1: Over the life of the grant, IRCL has accomplished a 13.5% decrease in the number of backlogged cases awaiting DNA analysis. Although each objective, whether it be purchases of equipment, software, licenses, attendance at trainings or the hiring of personnel was met, the goal of decreasing the AWDT has not been realized. When compared to the start of the grant it appears there was a significant decrease, however that beginning measure was inflated by the reporting out of a group of old cases that had previously been outsourced. This is supported by the periodic reporting metrics that followed in this area. A closer average turnaround time for recently submitted cases that have information associated with the evidence is 60 days as reported in the October – December 2010 reporting period. Since that period, the section has maintained an average of 155 days (a 2.5 fold increase). This increase can be explained through a number of factors. In Figure 1 it is clear that from October 2010 through December 2011 the section was gradually decreasing its backlog of cases and was maintaining the average number of samples / analyst / month (Avg S/A/M) processed. It is noted that the AWDT has remained steady throughout the life of the grant after the initial increase in December 2010. This trend is expected as a result of the backlog being addressed where older, yet still active cases, are being processed and reported. Beginning in the January - June 2012 reporting period the section began to see the number of samples per analyst drop and the backlog begin to increase again. This was also expected due to resources needed to be redirected to train the new analyst that was hired using federal funds. In July 2012 the analyst became qualified as a full DNA caseworking analyst. As seen in Figure 1, the number of samples per analyst has increased during this reporting period and as previously seen, the IRCL expects the backlog will begin trending downward in the near future.



**Note:* The average work day turnaround (AWDT) time measures are adjusted using the modified calculation as mentioned in Report #5.

- Goal 2: With the aid of this funding, three DNA analysts were able to attend professional conferences and participate in training workshops. The fourth DNA analyst was able to meet the FBI continuing education requirements through a free training. Attendance at these meetings/trainings benefited the Forensic Biology Section by learning about new processes and instrumentation geared toward the field. This will assist in near future decisions regarding the upgrading of our aging automation platforms and other gaps in the current process.
- Goal 3: A new DNA analyst was hired in April 2012 with the use of these funds. The analyst's salary and benefits were funded through mid-September 2012 with this award and then continued on subsequent DNA Backlog Reduction Program awards (2011-DN-BX-K476 and 2012-DN-BX-0072). This analyst came with prior caseworking experience which allowed the Laboratory to expedite the training program and have the analyst online by July 2012. While funded through this award, the analyst completed 8 cases which produced an uploadable CODIS profile. Due to the use of federal funds for supplies (amplification/quantitation kits) under grant 2011-DN-BX-K476 two of these cases and the uploadable profile have already been accounted for in another metric. Therefore, the *Optional* metric will only reflect the number of cases (6) the analyst completed, uploadable profiles (0) and hits (0) generated while funded under this grant that have not already been counted in any previous metric. The analyst continues to contribute to the reduction of the backlog and has completed an additional 26 cases, producing 16 eligible CODIS profiles and generating 1 CODIS hit on subsequent grant awards.

In conclusion, as a result of this funding the Indian River Crime Laboratory was able to complete all of its objectives and experience a decrease in its backlog of DNA cases. This trend is expected to continue with the maintenance of the number of analysts available to work cases and as the section continually seeks ways to bridge gaps in its current processes. This funding was instrumental in standardizing the Laboratory's computer infrastructure. Access to and maintenance of the instrumentation, data and case tracking system is vital in forensic science. Although the average workday turnaround time has remained elevated, the IRCL considers this

to be a reflection of its efforts to address the backlog and work older cases still awaiting analysis. In fact, with the aid of the grant funded analyst, the Forensic Biology Section targeted and eliminated its backlog of sexual battery cases and plans on addressing other recidivism based crimes such as property crime.

FY10 Recipient Name: Pinellas County, Florida

Award Number: 2010-DN-BX-K128

Award Amount: \$333,220

Final Report:

Goal 1. To increase the number of extracted samples that can be analyzed, by multiples analysts, or using multiple chemistries, at a given time, thus relieving bottlenecks associated with instrument availability.

This objective was achieved. The Applied Biosystems 3130XL (16 capillary instrument) was purchased, installed, validated (performance checked) and brought on line for case work. The first casework run on the instrument occurred on February 10, 2012. The process included the validation and use of the associated software: GeneMapper IDX. Software was installed at each analyst's desks to allow multiple analysts access to data for processing and review at the same time. The result has been an increase in the average number of analyses per month, per analyst. It should be noted; however, that the average number of analyses per month is based on the number of FTE budgeted. During the last reporting period (Jan 1-Mar 31) the actual number of analysts was reduced due to maternity leave and analyst-in-training. Thus, the reporting value is lower than actual (42.6 vs. 51.0).

Goal 2. To increase the efficiency, and thus analysis time, of extractions of swabs and cuttings by introducing robotics with magnetic bead technology to the analysis process.

The objective has been met. Three ABI Automate extraction robots were received and their validations completed. All analysts were trained in the use of both Prepfilers and Prepfilers BTA extraction chemistries.

The laboratory has seen a significant >50% increase in evidence submissions associated with burglaries and home invasions. Most items of evidence are simple blood swabs or touch samples. The robotics are ideal for quickly processing these samples. Without this automation, the laboratory's backlog would be substantially higher OR the laboratory would have to turn away casework. While the average turn around time and back log has increased, the number of case samples has also dramatically increased as has the number of analyses per analyst.

Goal 3. To increase the number of property crimes submitted for analysis by removing submission limitations based on capacity.

There has been a greater than 50% increase in the number of property crime submissions. The laboratory has had significant success with CODIS hits associated with these submissions. Submission limitations now only include misdemeanor cases, all felony cases with **relevant and probative** evidence are accepted for submission.

Goal 4. To establish and maintain an average turn around time of 30 days or less DNA submissions.

The laboratory was unable to achieve this goal within the grant period. The turnaround time has increased to ~52.8 days (Average: Jan - March, 2012). This increase was due to three major factors. 1) A more than expected increase in rate of case submissions. 2) A decrease in analytical staff due to maternity leave and one unanticipated resignation/relocation within the grant period. Additional staff has been added and training is near completion. Additionally, another position was added using 2011 Grant funding, which should mitigate the turn around time issue and add stability to the staffing levels. Finally, the rate of submission of case samples appears to be stabilizing, allowing for more reliable predictions and better case management processes.

Goal 5. To establish an average number of analysis per analyst per month (as defined below) of at least 45.

This objective was only met by using the true number of analyses per month per analyst calculations. From Jan 1, 2012 to March 31, 2012 the laboratory performed 1376 DNA analyses. The laboratory funds 6 full time analysts, thus that equates to 42.6 analyses per analyst per month. However; in actuality the laboratory had 5 casework analysts (one position was in-training for most of award period). Based upon 5 analysts the actual number of analyses per month per analyst was 51.0.

Goal 6. To establish and maintain that no more than 10% of DNA cases become “backlog” cases, i.e. no more than 10% of cases have a final turn-around time of more than 30 days.

This objective was not met. The average turnabout time at the end of the award period was 52.8 days. More than 35% of those cases had an average turn around time of greater than 30 days. This was the results of more case submissions than projected and reduced staffing levels. However, it must be noted that, given these circumstances the addition of the 16 capillary genetic analyzer and the extraction robotics were critical. Without the additional automation both the backlog and the average turn around time would be significantly higher.

It is the opinion of the laboratory that the grant funds provided by and projects completed with this award were critical to the laboratory’s continued development and case management. The DNA section in the laboratory has only been fully operational since January 2010. In that time period, case submissions greatly exceeded initial projections. The instrumentation and processes that were validated and implemented using these funds allowed the laboratory to meet the needs of the law enforcement community. The long-term benefits cannot be measured in such a short award/reporting period; however, they are obvious in the daily efficiency improvements of the laboratory.

FY10 Recipient Name: Broward County Sheriff’s Office, Florida

Award Number: 2010-DN-BX-K121

Award Amount: \$491,061

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: To hire a Forensic Technician and a Criminalist I to assist in the everyday workings of the section and DNA analysis.

- Goal 2: To send DNA analysts to relevant workshops/meetings so that they comply with the DAB standards for yearly education.
- Goal 3: To purchase two portable air-conditioner units to help maintain climate control in our instrumentation room. To purchase desktop scanners, barcode printers and networked barcode printers that will be used when we go live with LIMS. To purchase larger computer monitors which will be needed for Genemapper IDX analysis.
- Goal 4: To purchase supplies/kits to process DNA samples in-house to assist in decreasing the backlog.
- Goal 5: To have an outside vendor perform validations of two ABI 3500 with Identifiler Plus and the Qiacubes.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- Goal 1: The grant has recently just been awarded; no activity at this time.
- Goal 2: No activity at this time due to the grant recently being awarded.
- Goal 3: No activity at this time due to the grant recently being awarded.
- Goal 4: No activity at this time due to the grant recently being awarded.
- Goal 5: No activity at this time due to the grant recently being awarded; although we are in the process of writing up the proposal for bidding.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Goal 1: No activity has been made for this goal.
- Goal 2: Three analysts attended the American Academy meeting in Chicago, IL during this period. One analyst attended the Bode meeting in May.
 - The above information is incorrect. This grant was not utilized for the American Academy meeting.
- Goal 3: The portable air conditioners have been ordered.
- Goal 4: No supplies/kits have been purchased from this grant at this time as we are spending from the 2009 for this category.
- Goal 5: The contract was put out for bid and the vendor selection is in process.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Goal 1: The interviews have been done for both positions. Candidates have been selected and are in the background stage of the hiring process.
 - The Criminalist II position was downgraded to a Criminalist I.
- Goal 2: Three analysts attended the Promega meeting in National Harbor, MD during this period.
- Goal 3: This goal has been reached.
- Goal 4: No supplies/kits have been purchased from this grant at this time as we are spending from the 2009 for this category.
- Goal 5: The vendor came to the lab and performed the validation. Upon review it was determined that the data did not comply with our requirements. The vendor returned to the laboratory and performed them again utilizing different settings on the instrument, after performing diagnostic testing and service on the instrument.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

- Goal 1: The Criminalist I was hired in March and the Forensic Technician was hired in June. They have been reading our SOPs and getting familiar with them and are awaiting formal training.
- Goal 2: The grant manager for the lab attended the NIJ Conference in June.
- Goal 3: The portable air conditioners have been received. The desktop scanners, barcode and networked barcode printers as well as the computer monitors have been ordered and received. This goal has been reached.
- Goal 4: Several Identifiler kits were purchased (June) as well as microcons, gloves and lab coats.
- Goal 5: The contract has been put out for bid for the validation for the second ABI 3500 and the Qiacubes.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

- Goal 1: The Criminalist I and the Forensic Technician are going thru formal training. This training is being funded through another grant.
- Goal 2: The Unit Supervisor attended the Green Mountain Conference in Vermont in August.
- Goal 3: A refrigerator/freezer combo unit has been added to the equipment line. We are obtaining quotes to make this purchase.
- Goal 4: Several more Identifiler kits were purchased as well as 96 well reaction kits, and pop 4.
- Goal 5: The vendor has been selected to perform the Qiacube validation. The vendor selection to perform the validation on the second ABI 3500 is still in process.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

- Goal 1: The Criminalist I and the Forensic Technician finished their formal training. They are now completing their qualifying tests and preparing for their mock trials.
- Goal 2: 2 employees attended the American Academy of Forensic Sciences meeting in Washington, DC in February. Two graduate students were reimbursed for their graduate courses.
- Goal 3: The refrigerator/freezer combo unit has been ordered and received.
- Goal 4: Several more Identifiler kits, Qiagen kits and Plexor kits were purchased.
- Goal 5: Both the Qiacube and the ABI 3500 validations have been performed. The manuals are being updated and the instruments are getting ready to be brought on line.

PROGRESS REPORT 7 - Final Report – June 13, 2013

- Goal 1: A Criminalist I and a Forensic Technician were hired through this grant. Once they were hired, they were trained initially within the laboratory and then NFSTC was brought in to give them a more in depth training course. They are now completing their qualifying test and are preparing for their mock trials. Upon completion of those, they will both be brought on line to screen DNA evidence and to prep it for analysis. In addition, the tech will continue to order supplies and prepare solutions for casework analysis. As a result, both of these positions add great value to the section.

- Goal 2: Seven members of the DNA unit attended training utilizing money from this grant. Due to major cut backs and restrictions on training, this would have not been possible thru the department. In order to remain in compliance with DNA guidelines as well as certification requirements, training on a yearly basis is mandated. Without this funding, this would not have been possible.
 - Goal 3: The Crime Lab is located in the main courthouse. Generator tests are done on a regular basis that causes interruption in power resulting in a lack of air conditioning. The temperature in the instrument room needs to remain at a cool and constant temperature which is out of our control. Two portable air conditioner units have been purchased to ensure this. The laboratory is in the final stages of bringing our LIMS online. Desktop scanners, barcode printers and networked barcode printers have been purchased thru this grant so that the transition can be made. Through the use of a LIMS, evidence will be able to be tracked more efficiently. More importantly, DNA cases worked utilizing grant funds will be tracked at every step thus making metrics and progress report writing easier and more thorough. With the purchase and validations of the 3500 genetic analyzer we will be utilizing Genemapper IDX. Our current computer monitors were too small and we used grant funds to purchase larger ones. This will enable us to work with the new Genemapper software. The DNA unit underwent renovations. Prior to these renovations, the initial extraction areas were separate from the EZ1 robotic portion of the extraction/clean up part of the analysis. These sections have now been combined and we were in need of a refrigerator/freezer combo unit for that room to store the necessary chemicals needed for analysis. The purchase of this has enabled us to cut down on wasted time that would have been spent moving from room to room to obtain the necessary chemistries needed for analysis.
 - Goal 4: Identifiler kits, Qiagen EZ1 kits, Plexor quantification kits, a spectral calibration kit as well as microcons, pop 4 polymer, sizing standard, reaction plates, gloves, lab coats and pipette tips were all purchased through this grant. All of these products are a necessary part of the DNA analysis. As a result of these purchases, 742 cases were worked. This would not have been possible if not for grant funding.
 - Goal 5: Recently through other Grants, we were able to purchase two (2) 3500 genetic analyzers and two (2) Qiacubes. With the implementation of new instrumentation comes the need for validation. Unfortunately this means taking an analyst off the bench and away from casework. The Broward Sheriff's Office brought in outside vendors (acquired through the bidding process) to perform the validations and training necessary to not only get the new 3500s on line but to validate the new advanced Identifiler Plus kit as well. In addition, the unit had the two (2) Qiacubes validated that will be utilized for differential extractions. This will significantly decrease the time it currently takes to process sexual battery cases. In conjunction with the 3500, the turnaround time for case output will decrease and the ability to increase throughput will rise.
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FY10 Recipient Name: Georgia Bureau of Investigation

Award Number: 2010-DN-BX-K094

Award Amount: \$2,147,541

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: Continue funding for 24 positions.
- Goal 2: Purchase additional instrumentation to build capacity in the convicted offender unit in anticipation of new legislation requiring collection of additional samples.
- Goal 3: Outsource selected cases to private laboratories to assist in backlog reduction.
- Goal 4: Pay overtime to scientists to analyze cases in-house and review outsourced cases.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goals and Objectives

- Goal 1: Activity on this goal is pending. Funding still available from the FY2009 Forensic DNA Backlog reduction award was used during this reporting period to support this goal.
- Goal 2: Activity on this goal is pending. Preparation of specification for purchase of new genetic analyzers for offender sample testing has been started, but those instruments will most likely be purchased with funding still available from the FY2009 Forensic DNA Backlog reduction award.
- Goal 3: Activity on this goal is pending. Funding still available from the FY2009 Forensic DNA Backlog reduction award was used during this reporting period to support this goal.
- Goal 4: Activity on this goal is pending. Funding still available from the FY 2009 Forensic DNA Backlog reduction award was used during this reporting period to support this goal.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Goal 1: Activity on this goal is pending. Funding still available from the FY2009 Forensic DNA Backlog reduction award was used during this reporting period to support this goal. The number of positions that will eventually be funded by this award is 14 due to transition of some positions to state funding or other grant awards. A budget modification GAN (#001) to reflect these changes was filed and approved during this reporting period. Positions will be transitioned to this award effective July 1, 2011.
- Goal 2: The genetic analyzers for the offender testing were purchased using FY2009 award funds. However a budget modification GAN (#001) was approved that included the purchase of several additional instruments, both within the convicted offender unit and the DNA casework units of the GBI. A Model 3500 Genetic Analyzer and five Qiagen EZ1 Advanced robotic extraction units were purchased for the Headquarters lab and one Qiagen EZ1 Advanced robotic extraction unit was purchased for the Cleveland lab.
- Goal 3: There was no outsourcing of cases using funding from this award during this reporting period. The budget allocated for this outsourcing was re-allocated in budget modification GAN #001 to other purposes since the GBI Crime Lab has reached a point with internal capacity where outsourcing should not be necessary unless unusual circumstances develop.

Goal 4: Activity on this goal is pending. Funding still available from the FY2009 Forensic DNA Backlog reduction award and/or state funds was used during this reporting period to support this goal.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Thirteen (13) personnel (12 scientists and 1 technician) were transitioned onto this grant from the FY2009 Forensic DNA Backlog award at the beginning of July 2011. In August 2011, one of the scientist positions was transitioned into a state funded position vacated following a resignation. A second award funded scientist resigned at the end of November 2011 to take a position in private industry. A third award funded scientist resigned in December to take a position at USACIL. A budget modification (GAN 007) was prepared and approved in December to reallocate award funding to compensate for the reduced number of supported positions. Because the remaining 10 positions funded by the award increase the capacity of the laboratory's casework units, the 'Optional' performance metrics in Table 2 were completed. These metrics are obtained through data maintained in the Laboratory Information Management System (LIMS). The database is queried to obtain information on the number of cases assisted (Serology and/or DNA reports completed), DNA profiles uploaded into CODIS, and CODIS matches that resulted from those profiles.

Data fields for each forensic biology request are used to record if the report was assisted by award funded overtime, which award funded the overtime, or if the report was completed by an award funded analyst. Although the award funded analysts also work overtime funded by the award (Goal 4), the case data from any overtime for these personnel has been excluded from the metrics reported in the 'Optional' line of Table 2.

Goal 2: GAN 001 modified the budget to include the purchase of several pieces of instrumentation to increase the capacity and available instrumentation within the DNA casework analysis units located at the Headquarters and Coastal (Savannah) laboratories. GAN 005 further modified the budget to purchase additional instrumentation to improve quality control of reagents prepared in the Cleveland and Savannah laboratories. In December 2011, a budget modification (GAN 007) shifted a significant amount of funding within the award to purchase the instrumentation originally planned on this award and some that had been included in the FY2011 DNA Backlog award budget. This was done to expedite the expenditure of award funds in a shorter time frame and to address capacity needs within the casework units. The validation of the 3500 genetic analyzer for casework analysis purchased in the first half of 2011 at the Headquarters laboratory (approved in GAN001) was completed as part of a competitively bid contract awarded to Applied Biosystems. Applied Biosystems will return to brief GBI personnel on the validation and provide additional instruction on instrument operation during January 2012. The anticipated implementation date of the 3500 genetic analyzer in casework is the second quarter of 2012. Updates to existing analytical procedures and completion of competency testing of GBI personnel will need to be completed prior to full implementation. The following instruments were purchased for the Coastal lab in Savannah per approvals in GANs 001 and 005:

- Two Qiagen EZ1 Advanced XL robotic extraction units (Serial #: L116A0623, L114A0620), installed and implemented for casework
- One 310 Genetic Analyzer (Serial #: 32100305), installed and waiting on final performance checks
- One 7500 RT-PCR (Serial #: 275007208), waiting on replacement part from vendor
- One 9700 thermal cycler (Serial #: Base: 805S1191421, Block: 096S1190430), installed and implemented for casework
- Ultrapure water system, implemented

An ultrapure water system was also purchased and installed in the Cleveland laboratory during this reporting period to support improved quality control of reagents prepared in the database unit.

Goal 3: Per the budget modification in GAN001 and customer pressure to eliminate outsourcing of cases due to the unpredictable costs associated with testimony that the award can't pay, outsourcing of casework is not currently considered a viable option within the GBI laboratory. This goal will not be pursued further unless an unexpected increase in backlog occurs.

Goal 4: 1209.75 hours of overtime funded by this award have been worked by Forensic Biology personnel since September 2011 to perform in-house analysis. Both state funded and award funded employees work overtime in efforts to reduce backlogs in the laboratory. Overtime for both state and federally funded employees is used to support review of final reports and data, prepare samples for screening or DNA analysis, and performance of analytical procedures. At the GBI laboratory, overtime is incorporated into the normal analytical process for cases, instead of segregating individual cases to be worked on overtime. This approach results in a better workflow through the process and thus the overtime impacts a higher number of cases than might otherwise be expected.

The overtime supported by the award allowed 701 reports from 642 unique cases to be completed in a shorter time frame than would otherwise have been possible. 244 of the reports were for DNA analysis, with the remaining 457 from evidence screening to determine suitability for DNA analysis. During this reporting period, approximately \$33,583 was spent on overtime to assist the 642 cases leading to a cost per case for overtime of only \$52.31. This low cost is reflective of the fact that for any single case, only a small part of the total analysis and/or review was conducted during overtime. The remainder of the work conducted to complete the case was performed during regularly scheduled work hours.

Narrative: During this reporting period, award funds were used to purchase and validate instrumentation, support overtime, and fund several positions. No award funding has been or is planned for the purchase of supplies for use in casework analysis. All metrics related to backlog reduction from award funds are limited to those cases where the completion of at least one report on the case was aided by award funded overtime. All metrics related to capacity enhancement have been determined by identifying cases where a federally funded analyst completed one or more reports on the case, but no overtime related to this award or any prior DNA award was used during the analysis of the case.

As instructed in recent guidance from the program office, the backlog includes all cases involving a forensic biology service request where the report(s) have not been issued within

30 days. In order to determine this metric, a new SQL query was developed that examines the status of all forensic biology requests open at the specified target date, e.g. 12/31/2011. The query calculates the number of days between the target date and the date the case was originally submitted to the laboratory to determine if the 'case' was older than 30 days. Unfortunately, this method of calculation does skew the apparent backlog upward to some degree, because there are cases already significantly older than 30 days old at the target date where additional evidence and/or requests for analysis are received on cases where prior analysis had been completed or where no biology evidence had been previously submitted. Because the number of this type of case is relatively small compared to the overall caseload, a policy decision was made in the laboratory to maintain current data collection parameters rather than implementing new parameters that would add an additional burden on the staff for very little benefit in the overall outcome. Also because of the new guidance and the new query used for identifying cases vs requests – the metric for the start of the award has been modified from the original value of 253 to 507. The original metric focused strictly on DNA services and did not include all forensic biology requests.

The performance metrics for report turnaround measures the time interval between the time evidence was submitted to the lab and the DNA report which was assisted through overtime or federally funded analysts was completed and released to the submitting agency. By limiting this metric to DNA reports, it provides the 'worst case' scenario, since approximately half of all cases submitted for forensic biology/DNA analysis do not have biological material suitable for DNA analysis. The average time to release reports increased during this reporting period due to extensive cross training of forensic biology scientist in either serology or DNA. This training will be completed in early 2012, which should lead to an improvement in this metric in future reports. The data from this metric is obtained from the LIMS database using the Crystal Report 'Capacity Award Metrics – DNA Report Turnaround'.

The average number of samples per scientist measured the number of samples analyzed for DNA during the reporting period. This metric decreased slightly during this reporting period for the reason discussed above. The data from this metric is obtained from the LIMS database using the Crystal Report 'Items Analyzed Per Scientist', which gives a sum of the items analyzed by each scientist during the reporting period where the report has been completed and a count of scientists involved. This metric includes efforts of all personnel, including those funded by the state. The average is slightly lowered by the inclusion of management and technical leader personnel who only complete a few cases each month, but are still counted as a full scientist for the purposes of this metric.

The Backlog Calculator spreadsheet provided by the NIJ program office has been included as an attachment for the report. A second spreadsheet, 'Case_List_for_Metrics_2010_DN_BX_K094' has also been attached as part of this progress report, listing the case numbers related to specific metric questions and/or questions in the Backlog Calculator spreadsheet. These case listings were generated using a number of customized SQL queries of the LIMS database, limiting the results to unique case numbers to avoid duplicate counts even in cases where separate reports were assisted by award funded overtime and award funded personnel.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012 (March 31, 2012 end of project expenditures)

Goal 1: Ten positions were funded by the award through March 15, 2012. Those personnel positions were then transitioned to the FY2011 DNA Backlog project. The ‘Optional’ portion of Table 2 is completed because these positions add capacity to the analytical capacity of the laboratory.

GOAL COMPLETED

Goal 2: The remaining instrumentation and small equipment that was approved for this award under GAN 007 was purchased and received by the laboratory. The following items were received during this performance period:

Description	Quantity	Lab	Serial Number(s) where applicable
Qiagen EZ1 Advanced	3	Moultrie	L11ZA0699, L11ZA0695, L11ZA0709
Qiagen Qiagility	1	Moultrie	K002618
9700 Thermal Cycler	3	Headquarters	base (805S1230112, 805S1241202, 805S121231) block (096S1210618, 096S1230210, 096S1230225)
Microcentrifuge	12	Headquarters	41276492, 41289064, 41302176, 41289078, 41314923, 41289079, 41314925, 41320556, 41314909, 41314910, 41314922, 41314921
Biosafety Cabinet	2	Headquarters	113313-2788, 113313-2789
3500 Genetic Analyzer	1	Headquarters	23145-021
BSD Puncher for Offender Samples	2	Cleveland	11171, 11172
Qiagen EZ1 Advanced	5	Headquarters	L121A0736, L121A0733, L121A0723, L121A0721, L121A0738

The budget included funding for a Dell server to be used with Genemapper IDX that was not purchased. This funding was reallocated with program office approval (GAN 009) to purchase an additional Qiagen EZ1 Advanced extraction robot for the Headquarters lab. After discussions with the vendor (ABI) it was determined that the server was not really necessary for our laboratory. **GOAL COMPLETED**

Goal 3: No outsourcing was performed. Please see Progress Report 3 for a more detailed explanation. **GOAL COMPLETED**

Goal 4: During the period January 1 to March 31, 2012 the Forensic Biology staff worked a total of 716.25 hours of overtime that was funded by this award at a total cost of \$20,597. All award funds were exhausted by March 31, 2012. Although the overtime was worked by both state funded and award funded personnel, only cases completed by state funded personnel are counted for the performance metrics. During this reporting period, 148 cases were completed. This equates to a cost per case during this reporting period of \$139.17. The relatively low cost per case is because overtime is used to continue analysis and review on cases already in the workflow of the laboratory. **GOAL COMPLETED**

Narrative: This reporting period is actually January 1 – March 31, 2012 rather than Jan – July 2012 as indicated in Table 2. All activities using funding from this award had been completed by March 31, 2012. During this reporting period, award funds were used to purchase and validate instrumentation, support overtime, and fund several positions. No award funding was used for the purchase of supplies for use in casework analysis.

The SQL queries and Crystal Report templates used to obtain the data for the performance metrics were further refined to improve the overall accuracy of the data. As a result, some metrics were revised in Table 2 to reflect these improvements. All metrics related to backlog reduction from award funds are limited to those cases where the completion of at least one report on the case was aided by award funded overtime for state funded personnel and there were no open requests for reports on that case at the end of the reporting period. All metrics related to cases completed by capacity enhancement have been determined by identifying cases where a federally funded analyst completed one or more reports on the case, again with no open requests for reports at the end of the reporting period, but no overtime related to this award or any prior DNA award was used during the analysis of the case.

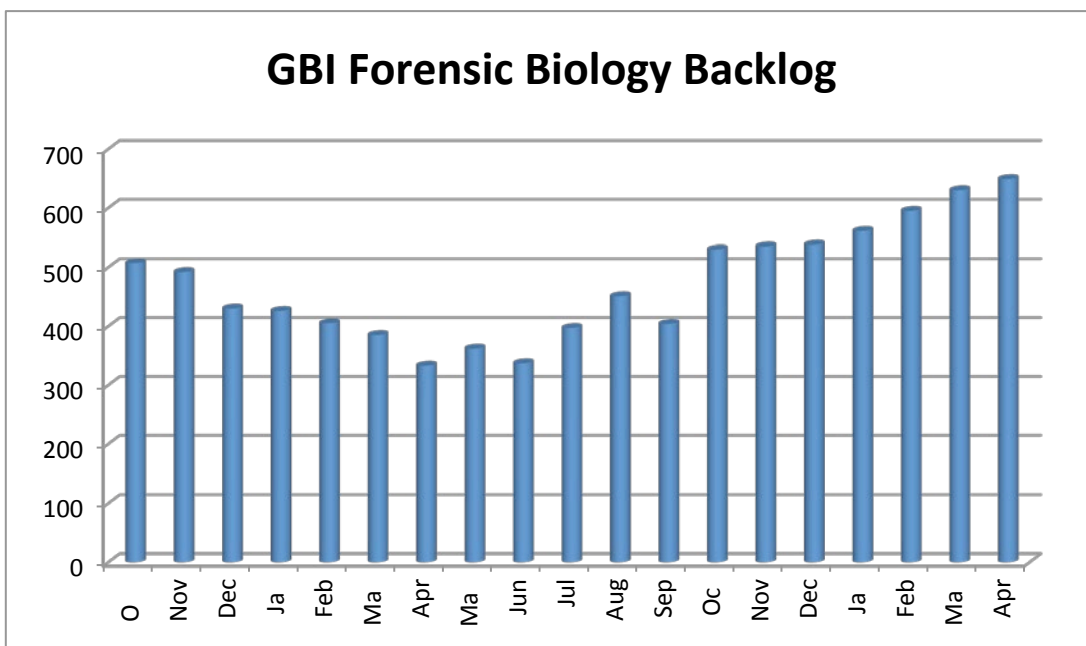
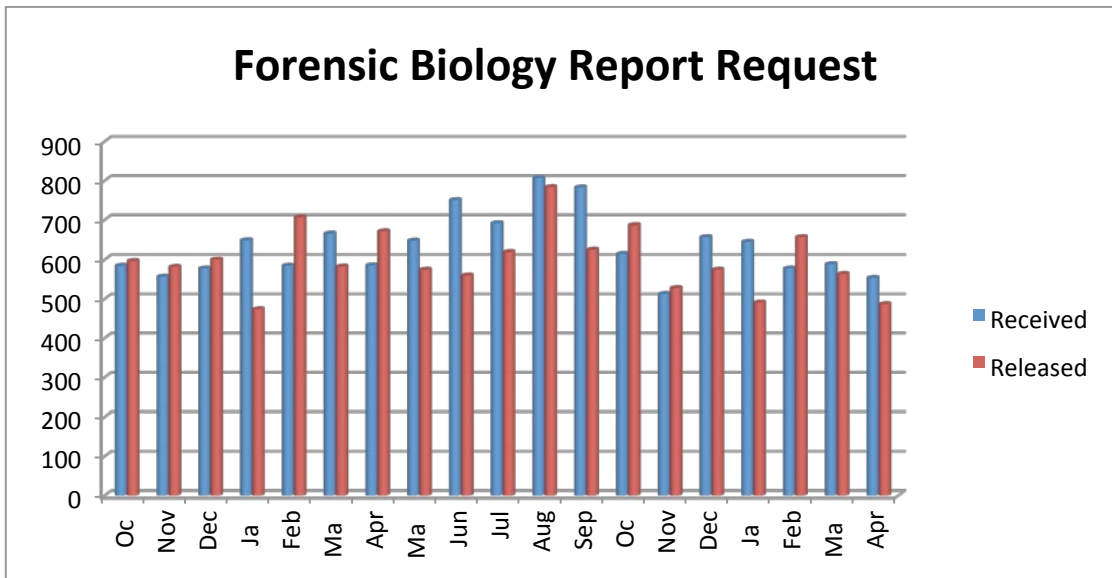
The backlog query was consistent with that used for the July to Dec 2011 report. At the end of this reporting period the backlog (3/31/2012) is 629 cases. The overall increase in backlog during the award period can be attributed to loss of trained personnel during the last quarter of 2011 and ongoing training for new personnel that wasn't completed until the end of March 2012. Also during this reporting period the laboratory has completed the 'teachback' portion from the vendor that performed the validation for Genemapper IDX, the ABI 3500 Genetic Analyzer, and Identifiler Plus STR kit. Some of these validations were funded with state funds.

FINAL REPORT:

Funding from this award was utilized during the period of July 2011 through March 15, 2012. All individual objectives/goals associated with this award were accomplished. Unfortunately the backlog within the laboratory did not decrease as anticipated. The primary reason for the lack of progress in backlog reduction is the high level of training that took place during this time frame. A total of fourteen (14) scientists were cross trained in Serology or DNA. From January to March 2012 five scientists were removed from performing casework analysis so that their DNA training could be expedited and completed. A secondary contributing factor was the resignation of three (3) fully trained scientists. All personnel from this award were transitioned to the FY2011 DNA Backlog award in March 2012.

For this final report the average number of items analyzed per scientist per month and average turnaround time for reports was calculated as the average over the period May 1, 2012 to July 31, 2012. The number of cases in backlog was determined as of July 31, 2012. The cumulative cases aided by grant personnel metric is greater than the sum of the prior performance periods because some cases still had open services at the end of a performance period, but were completed prior to this final report. The optional metrics were completed because this award supported several scientists. All metrics related to backlog reduction were based solely on the overtime worked by state funded scientists. Capacity metrics were based on the cases analyzed by the award funded staff.

The graphs below depict the overall casework efforts and forensic biology backlog of the GBI Crime Lab during the period covered by this award. Although the backlog of cases did not decrease during the award period, the availability of this funding was critical to maintaining existing operations within the GBI Crime Lab. Without these personnel supported by this award, the backlog would have increased significantly more than was actually observed.



FY10 Recipient Name: Honolulu Police Department. Hawaii

Award Number: 2010-DN-BX-K091

Award Amount: \$162,603

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Objective 1: To increase the capacity of the DNA laboratory through the purchase of equipment and repair of aging freezer units
- Objective 2: To hire one Criminalist to process 78 cases, increasing the casework capacity of the laboratory by 12.5%.

- Objective 3: To reduce the backlog by eleven forensic cases through the use of grant-funded overtime.
- Objective 4: To obtain continuing education for two DNA analysts.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- Goal 1: DNA analysis software licenses purchased to facilitate data interpretation. New contract hires being solicited.
- Revised 01/30/11- No DNA analysis software licenses were budgeted or purchased. The comment was inadvertently retained from a progress report template.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Revised 07/31/11- Hired 1 experienced analyst in March, 2011. The analyst processed 12 cases, thereby reducing case backlog. One mixed DNA profile was uploaded to CODIS resulting in one hit.
- Received budget modification approval to repurpose Personnel funds to expand lab capacity through: additional equipment, training, and to repair aging evidence storage freezer units.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Objective 1: To increase the capacity of the DNA laboratory through the purchase of equipment and repair of aging freezer units
 - One thermalcycler was purchased to alleviate a bottleneck for DNA amplification.
 - Two of three evidence freezer units used for the long-term preservation of evidence were repaired. The procurement process for the third unit was initiated in December 2011 with an anticipated repair date of May 2012.
- Objective 2: To hire one Criminalist to process 78 cases, increasing the casework capacity of the laboratory by 12.5%.
 - One grant-funded analyst processed 31 cases with 15 profiles uploaded to CODIS and 6 hits.
- Objective 3: To reduce the backlog by eleven forensic cases through the use of grant-funded overtime.
 - Two analysts processed forensic cases on grant-funded overtime. 31 cases were processed with 25 profiles uploaded to CODIS and 17 hits.
- Objective 4: To obtain continuing education for two DNA analysts.
 - Two analysts attended the Promega conference in October 2011, obtaining continuing education in compliance with the FBI-QAS.
- Only one activity on this grant remains in progress and no requests for grant extensions are anticipated. The laboratory may seek to repurpose cost savings in the next reporting period. These cost savings were due to furloughs and pay reductions observed during the grant period. The laboratory remains on-schedule to close the grant by June 30, 2012.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

- Please note the correction to the optional metric and the progress report for the period of January 1, 2011 to June 30, 2011. Upon review of the CODIS hits it was found that only one hit was obtained, not two.

- The section sought and obtained a time extension to December 31, 2012 due to contractor delays for a DNA freezer repair. In addition, a budget modification was sought and approved to address cost savings due to furloughs/pay reductions and lower than expected overtime expenditures.
- Objective 1: To increase the capacity of the DNA laboratory through the purchase of equipment and repair of aging freezer units
 - A network area storage device, hard drives with carriers, network card, and network cable were purchased to maintain the server that generates and stores the laboratory's technical and quality documentation.
 - Backup hard drives were purchased to back-up the CODIS server. A network switch was purchased to facilitate the transfer of data from the laboratory's genetic analyzers to the CODIS server.
 - A computer monitor was purchased for a laboratory computer work station.
 - A plate centrifuge was purchased for convicted offender DNA extractions.
 - The last of three evidence freezer units used for the long-term preservation of evidence was repaired.
 - A budget modification was approved on June 28, 2012 to purchase an under-counter refrigerator and freezer for reagent storage, swab drying boxes to help in the preservation of sexual assault evidence, a laptop for an analyst workstation, and SSD cards to increase analyst workstation computer speeds.
- Objective 2: To hire one Criminalist to process 78 cases, increasing the casework capacity of the laboratory by 12.5%.
 - The grant-funded analyst completed their employment on this grant on March 31, 2012. From the period of January 1, 2012 to March 31, 2012 the grant-funded analyst processed 8 cases with 0 profiles uploaded to CODIS and 0 hits.
 - Activities for this objective are complete.
- Objective 3: To reduce the backlog by eleven forensic cases through the use of grant-funded overtime.
 - All overtime costs for this grant concluded on March 31, 2012. Two analysts processed forensic cases on grant-funded overtime. 18 cases were processed with 10 profiles uploaded to CODIS and 8 hits.
 - Activities for this objective are complete.
- Objective 4: To obtain continuing education for two DNA analysts.
 - Activities for this objective were completed in the July 1, 2011 to December 31, 2011 reporting period.

FINAL REPORT:

The goal of this project was to increase the laboratory's overall analysis capacity to effect a reduction in the current casework turnaround time and case backlog. The laboratory successfully reduced the backlog from 207 cases at the beginning of the award period to 138 at the completion of the award, a 33% reduction. The case turnaround time increased from 44 days to 78 days. Turnaround time is the number of days it takes to complete a case. Backlogged cases are those that do not require immediate testing and therefore may reside in the system for an extended period of time before it is tested. So when a laboratory processes a large number of backlogged cases the turnaround time initially appears to increase. Contrary to appearances the increased turnaround was a natural result of the laboratory successfully reducing the backlog.

To accomplish the goal of this project, four objectives were implemented to increase the capacity of the laboratory, reduce the backlog, and improve the knowledge level of the analysts performing casework.

- Objective 1: To increase the capacity of the DNA laboratory through the purchase of equipment and repair of aging freezer units.

Due to the economy, the laboratory has not had an equipment budget for many years. The inability to replace aging equipment impacts the laboratory in many ways. Equipment that went beyond the ability of repair had to be retired creating bottlenecks in the laboratory. Outdated computer equipment provided unreliable back-up for critical information such as analytical data, quality control documents, and CODIS records. Freezer systems, recommended for the long-term storage of DNA evidence, could not be repaired. Grant funds were used to purchase the following items to improve the capacity of the DNA laboratory:

- One thermalcycler and one plate centrifuge to alleviate bottlenecks during DNA extraction and amplification.
- A network area storage device, hard drives with carriers, network card, and network cable to maintain the server that generates and stores the laboratory's technical and quality documentation. Backup hard drives to back-up the CODIS server. A network switch to facilitate the transfer of data from the laboratory's genetic analyzers to the CODIS server. A computer and monitor for laboratory analysis of data. SSD cards to increase analyst computer workstation speeds.
- An under-counter refrigerator and freezer for reagent storage. Swab drying boxes to help in the preservation of sexual assault evidence.
- Three walk-in freezer units used for the long-term preservation of evidence were repaired.

- Objective 2: To hire one Criminalist to process 78 cases, increasing the casework capacity of the laboratory by 12.5%.

Due to the economy, the laboratory has not been able to fill all the vacancies in the DNA laboratory. As a stopgap measure DNA analysts have been maintained on DNA backlog reduction grants. The laboratory estimated 78 cases could be processed by the experienced, grant analyst during her one-year employment period. Unfortunately the analyst had to take an extensive amount of personal time off in addition to required furlough leave, processing only a total of 51 cases. From those 51 cases, 16 DNA profiles were uploaded to CODIS with 7 hits obtained

- A grant-funded analyst was hired for the period of one-year to perform DNA analyses on casework. The hired individual was an experienced DNA analyst that has been maintained over the years using grant funding. During the grant period employees were furloughed

- Objective 3: To reduce the backlog by eleven forensic cases through the use of grant-funded overtime.

To make up for the deficiency of cases processed in Objective 2, more analysts were assigned to overtime processing of cases. Two analysts processed forensic cases on grant-funded overtime. 49 cases were processed with 35 profiles uploaded to CODIS and 25 hits.

- Objective 4: To obtain continuing education for two DNA analysts.

Due to the economy, the laboratory has not had a travel budget for several years. While the laboratory can, and has, hosted on-site training for compliance with the FBI-QAS

continuing education standards there is the potential, due to Hawaii's isolated geographic location, to become introverted and drift from the rest of the forensic community. To ensure the laboratory keeps abreast of current forensic DNA trends and issues, two analysts to the Promega conference in October 2011.

The Scientific Investigation Section would like to thank the NIJ for their courteous and timely assistance throughout the award period. Without federal assistance the laboratory could not have made such significant gains. We look forward to working with the NIJ in the future for the improvement of forensic DNA testing capabilities.

FY10 Recipient Name: Iowa Department of Public Safety

Award Number: 2010-DN-BX-K152

Award Amount: \$247,571

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To increase throughput capacity for the Convicted Offender Unit of the Iowa DCI Crime Laboratory.

Objective A: Implement a new DNA collection device and develop an online training program so the collection agencies can learn how to use the new collection device.

Objective B: Validate and Implement an automated punch system that will punch the DNA FTA samples and place them in a microtiter plate ready for amplification. Implementation of the punch was moved to the 2011 DNA Backlog Grant.

Objective C: Validate and implement a new direct amplification kit. This objective was moved to the 2011 NIJ DNA Backlog Grant via GAN# 249587, 6-01-11 and removed from this award.

Objective D: Validate the GeneMapper® ID-X software program and train staff on its use. This will be for both the PCO (database) and casework sections of the DNA unit.

Objective E: Purchase and install a new rolling storage unit to house the additional database samples. This objective was moved to the 2011 DNA Backlog Grant via GAN# 249587, 6-01-11 and removed from this award.

Goal 2: Increase Capacity in the forensic casework unit, and improve DNA analysis.

Objective A: Purchase 6.7 new Crime Lite ML2's for casework analysts to more easily identify biological stains at their work areas. This objective was moved from the FY 2011 DNA Grant under Goal 2 Objective D. The remaining portion of the last Crime Lite ML2 will still be purchased under the 2011 DNA Grant. This objective was moved from the 2011 DNA Backlog Grant via GAN# 324925, 2-14-11.

Objective B: Validate Powerplex 16 HS (Hot Start) in order to address ASCLD/LAB ISO 17025 audit findings concerning mixture interpretation guidelines. This objective was new and was added via GAN# 264899, 9-12-11 and # 249587, 6-01-11.

PROGRSS REPORT 1: October 1, 2010 – December 31, 2010

This goal is still pending. Due to the loss of our Regional Sales Rep from Applied Biosystems (AB) in Oct., our estimates for the grant had to be reproduced by our new temp. Sales Rep. in conjunction with their valid. specialist. These initial quotes were received in early Jan. 2011 and additional modifications are coming. In late January 2011 we got a new Reg. Sales Rep. Hopefully this will not delay the quotes we will be receiving from (AB). After final quotes are received we should begin bid process.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goals:

The goals of the original project have not changed; however, some of the objectives have been delayed. One additional goal was added for the casework side of the DNA Unit. Please see below.

- (RFB) Request for Bids have been posted by the State Department of Administrative services for the full validation work on Powerplex 16 Hot Start. This money was re appropriated for this work from a GAN that was written on 5-31-2011. A total of \$76,000.00 was re-appropriated for this purpose by not purchasing a vertical carousel file storage unit from this grant and delaying the purchase of 3 copies of GeneMapper IDX Software. The RFB's were received yesterday from Sorenson Forensics and Bode Technology.
- The Sage Swabs and Puritan Paddle swabs have been ordered this month and have been received.
- Color changing FTA paper was ordered in April and is in house. It did not make the financial report for this latest quarter due to an accounting error but should show up on the next quarterly financial report.
- Life Technologies (Applied Biosystems) has been contacted to begin the purchase of the BSD 600 punch The new sales representative has given us a new quote for this new fiscal year.
- DNA buccal swab samples were collected on both the Puritan and Sage swabs. Samples were then transferred to the Whatman color changing FTA paper. They will be analyzed on both the Promega Powerplex 18D and Applied Biosystems Identifiler Direct kits so this lab can perform a side by side comparison of the two new kits. This will be performed when the BSD Punch is on-line.
- Complimentary PowerPlex 18D and Identifiler Direct kits have been received into the laboratory for side by side comparison.

Budget Modification:

A Budget Modification was submitted in March 2011 concerning the purchase of 100 Puritan Paddle swabs, 800 Sage foam swabs and 100 color changing 2 circle FTA cards. These three items total estimated cost was \$647.00. The DNA unit chose not to purchase 1000 Whatman Easi-Collect devices for a cost of \$4700.00. This gave a cost savings of \$4053.00. This money (\$4053.00) was moved to the contracts section of budget detail worksheet for validation costs of the Biomek Robot. No GAN was written since this amounted to only 1.64% of the total amount of the grant. Also the Scope of the project did not change.

Grant Adjustment Notice (GAN):

In May of 2011 a GAN was created to reallocate money for the validation of Powerplex 16 Hot Start (HS). A total of \$76,000.00 was allotted for this purpose by delaying purchase of a \$55,000.00 vertical carousel file storage unit and \$21,000.00 for 3 client copies of GeneMapper IDX. These two expenditures were placed on the 2011 NIJ Grant. The purpose of this GAN was to address a need on the casework side for changes resulting from an external ASCLD/ LAB ISO 17025 audit that took place in August of 2010. This audit dealt with the DNA section making changes in mixture interpretation guidelines to come in line with the “*SWGDM Interpretation Guidelines for Autosomal STR Typing by Forensic DNA Testing Laboratories* (approved 1-14-10)“.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goals: The goals of the original project have not changed since the last project report. Progress on the goals are as follows:

- Powerplex 16 HS validation has been performed by an outside vendor. Bode was awarded the contract for the validation of PowerPlex 16 HS in the casework unit. The work was performed during the fall of 2011, with completion and teach back by Bode taking place on December 14, 2011. The invoice from Bode was received on December 15, 2011 for the amount of \$44,750.00. The laboratory is currently writing up internal SOP's to bring the new Hot Start chemistry online for the casework unit.
- Additional PowerPlex 16 HS kits and consumables were purchased for the validation. These items totaled: \$27,475.77.
- The BSD Punch was received into the Convicted Offender unit on 9-01-11 from Applied Biosystems (Life Technologies). The install was completed on 9-14-11 by Applied Biosystems. The invoice for the instrument was received for the amount of \$35,861.42.
- A one year extended service contract was purchased on the BSD Punch from Applied Biosystems for the price of \$8,578.68.
- Side by side comparison of direct amp kits: PowerPlex 18D and Identifiler Direct continues with complimentary kits from both vendors. The work is being performed using punched FTA samples of buccal DNA. These FTA samples were punched using the new BSD 600 punch.
- An additional expenditure of \$136.56 was added as a GSE purchasing administrative fee expense.
- Redesign of the new DNA collection kit continues. With this redesign the FTA card that will be stored, will be smaller allowing more samples to be stored within the new rolling storage cabinet.
- The DNA unit is working with the Department of Administrative Services (DAS) to procure the five client copies and one full copy of GeneMapper ID-X software, along with training. Two client copies and one full copy will be purchased out of this grant. We expect the bid to be completed in February 2012 and training to be completed during spring of 2012.

Grant Adjustment Notice (Budget Modification GAN)

In June 2011, Project Scope and Budget Modification (GANs) were submitted and approved to pay for validation of PowerPlex 16 HS for the Casework unit. Since the cost of validation came in under the projected amount \$76,000.00 vs. \$44750.00 (actual), an additional Budget Modification GAN was submitted and approved in September 2011 to move \$27,207.00 from the (category G: Contractual) to (category E: Supplies). This movement of money between categories was to offset costs incurred during the validation. Those costs included payment for four (4) PowerPlex 16 HS kits, two (2) capillary arrays, NIST SRM Standard Reference Material, and PowerPlex 16 HS Matrix Standards.

Grant Adjustment Notice (Change Project Period GAN)

In December 2011 a Change Project Period GAN for a grant extension was requested. This request was to extend the grant from March 31, 2012 to September 30, 2012. Due to an error on my part in entering the closing date as September 31, 2012 (which does not exist) the program automatically changed the closing date to October 01, 2012. This is not allowed since it goes past six (6) months and into the next fiscal year. The grant was accidentally approved with the wrong date. Therefore the grant extension had to be resubmitted showing the ending date as September 30, 2012 which is actually shown as a new GAN in January 2012 for approval.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The Goals of this project have not changed since the last Progress Report 3. Progress on goals is as follows:

- In March the lab purchased one full version and two client versions of GeneMapper IDX software. The full version and one client version were loaded on to computers to check functionality. The cost for the software was \$35,836.54. This money came out of the Other Costs category.
- In April, GeneMapper IDX training was received in-house by Applied Biosystems. Note, the training did go out on bid and only Applied Biosystems responded. This training was inclusive for both the casework and database units of the DNA section. The cost for the training was \$22,647.37. This came out of the Contracts Category.
- With purchase of the IDX software and the training, we are now ready to purchase the new GATTACA server so we can bring the IDX software on line for both casework and database units. The purchase of this server will be made using the 2011 NIJ DNA Backlog Grant money.
- In house evaluation between Powerplex 18D and Identifiler Direct determined that Powerplex 18 D would be the kit of choice. The DNA unit will begin the process to begin a (RFB) for an outside agency to validate Powerplex 18D.
- The DNA Database Collection Kit has been redesigned. The proposal went out for bid and the new contract for the newly designed FTA kit has been approved in July 2012. It will be produced by GE Healthcare. Meetings with the vendor will take place in the near future and the kit order will come out of the 2011 Grant.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

In an effort to close out the 2010 DNA Backlog reduction grant, the Iowa DCI Crime Lab has decided to use the remaining money to purchase 6 Crime Lite ML2's for the DNA casework unit which were to be purchased on the 2011 Grant.

Currently there is enough money to purchase 6 Crime Lites in the 2010 Grant. This money was to be spent for consultants/contractors to validate the use of the BSD punch and a direct amp STR analysis kit for the convicted offender unit. Since that is proceeding more slowly than projected, we believe it would be less paperwork to purchase the Crime Lites and close out the 2010 grant. The validation work will be moved to the 2011 grant.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1:

Objective A: Part of this objective is complete and part of it is active. We have chosen a new DNA collection device which will be used with our new direct amplification procedure. This entire new procedure will be validated by Bode Technologies. (For detail on the validation please refer to Progress Report 4 for our FY11 grant). Once the validation is complete and SOP's are written, we will implement the new direct amplification procedure, including the new collection device. However, as we have chosen a new DNA collection device this part of the objective is complete. Also during this reporting period we have started working on producing a video that will be distributed to the different agencies that will be responsible for collecting. We are still working on this project therefore; this part of the objective was still active during this reporting period.

Objective B: This objective was moved to our FY11 DNA backlog reduction grant via a GAN.

Objective C: This objective was moved to our FY11 DNA backlog reduction grant via a GAN.

Objective D: This objective is active. During this reporting period we have run concordance checks using the GMID-X software on multiple sets of data that had been previously analyzed using the GMID software in our casework section. We will have trained casework staff on GMID-X during the time period covered by Progress Report 7 for this grant. Also, for our database section, we will run concordance checks and train database staff on the use of GMID-X. The concordance checks and training for the database section will take place after the validation being performed by Bode Technologies is complete. Therefore, no work has been started or completed on implementing GMID-X in our database section during this reporting period.

Objective E: This objective was moved to our FY11 DNA backlog reduction grant via a GAN. Additionally during Progress Report 5 of this grant a GAN was approved to move the purchase of 6 of the 7 Crime Lites to this grant in an effort to close out this grant. There were not enough funds left in the FY10 grant to purchase all 7 of the Crime Lites that the Iowa DCI Crime Lab intended to purchase. Therefore, to fund the purchase of these 7 Crime Lites, we exhausted the funding that remained in the FY10 grant and funded the remaining portion of the invoice for the Crime Lites with money from the FY11 grant. The purchasing of these 7 Crime Lites is in progress during this Progress Reporting period, therefore this objective is active. Please see #324925 Budget Modification GAN dated 02/14/2013. Please refer to attachment identified as "Budget modification GANs for 2010 and 2011 grants".

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1:

Objective A: Implement a new DNA collection device and develop an online training program so the collection agencies can learn how to use the new collection device.

The new FTA DNA Database Collection kits are in house and waiting for distribution through the Department of Corrections. They were purchased through funds from the FY11 DNA Backlog grant.

Training has begun in October 2013 with personnel from the lab going out to train jailers from Sheriff's offices around the state on the collection of the new DNA collection kit. These trainings are taking place through 12 separate 40 hr. new jailer classes being taught at the Iowa Law Enforcement Academy. Also there are 16 separate 20 hr. refresher jailer classes being taught throughout the state. The instructional DNA Collection video was produced in-house by laboratory DNA staff. It will be put up on the DCI Laboratory website so collectors can view it from there. We are currently waiting for the webmaster for the Department to approve this upload on the Laboratory DNA website. Also DNA collection training will be taking place in January and February 2014 for Department of Corrections (DOC) supervisory personnel. The DCI Laboratory staff will train the upper level DOC staff and then DOC will train the rest of their staff (train the trainers).

Objective B: Validate and Implement an automated punch system that will punch the DNA FTA samples and place them in a microtiter plate ready for amplification.

This objective was partially moved to our FY11 DNA backlog reduction grant via a GAN.

Validation of the automated BSD 600 punch in conjunction with the new direct amp kit has been completed by BODE Technology. The *implementation*; however, has not been completed. That is why the remainder of this objective was moved to the FY11 DNA grant. The work up of Standard Operation Procedures is currently taking place. Please refer to the FY11 DNA Backlog Grant for further updates. The time savings for using the BSD punch and FTA punches vs. using swabs and snapping them is estimated to save 40 minutes per plate. This reduction will go from 60 minutes/plate to 20 minutes/plate. Currently, approximately 75 plates/year are run, with an expected doubling of that work after July 2014 when the expanded DNA Database law goes into effect.

Objective C: Validate and implement a new direct amplification kit.

This objective was moved to our FY11 DNA backlog reduction grant via a GAN.

This validation has been completed by Bode Technology in conjunction with the BSD punch. The implementation; however, has not been completed. A change did occur from the start of the initial Goal as far as the kits to be compared. Initially this lab was looking to compare ID Direct from Life Technologies vs. Powerplex 18D from Promega. Due to changes proposed by NDIS for the expansion of the CODIS core loci, the comparison was made between GlobalFiler Express from Life Technologies vs. Fusion from Promega. This laboratory chose Fusion to validate. Please refer to the FY11 DNA Backlog Reduction Grant. Also because of the production of the Life Technologies 3500 Genetic Analyzer, this instrument was used in the validation rather than the older 3130 Genetic Analyzer.

Objective D: Validate the GeneMapper ID-X software program and train staff on its use. This will be for both the PCO (database) and casework sections of the DNA Unit.

GeneMapper ID-X has been validated and was incorporated into the Casework section of the laboratory in August 2013. Training took place in August 2013 for all DNA casework analysts. That training has been documented. Tools within the software such as the comparison tool has decreased a portion of the time required by analysts to compare staff indexes and sample indexes to see if there has been contamination. This time savings has been minor (approximately 1-5% overall time savings for casework analysis using ID-X software versus ID software. The purchase of this software in conjunction with the purchase of six new data analysis computers (from 2011 DNA Backlog Grant) to load the new software on, prepares this laboratory for the switch from using the 3130 CE instrument to the new 3500 CE instrument (purchased from the 2011 DNA Backlog Grant) so both the Casework and Convicted offender units can prepare for the future implementation of this new 3500 CE instrument which requires GeneMapper ID-X for operation.

GeneMapper ID-X has been installed in the convicted offender section of the laboratory; however, it has not been implemented. The laboratory must wait for the completion of the validation and the bringing on-line of the new direct amp Fusion chemistry. Once this is completed, this laboratory will be able to begin validating the GeneMapper ID-X software as an expert system. This laboratory intends to get NDIS approval for this total process (new ID-X software expert system, using Fusion DNA analysis kits on the new 3500 Genetic analyzer. This should decrease data analysis time significantly. An update will be included in the FY11 DNA Backlog Grant.

Objective E: Purchase and install a new rolling storage unit to house the additional database samples

This objective was moved to our FY11 DNA Backlog reduction grant via a Budget Modification GAN249587.

No work was done on this objective.

Goal 2:

Objective A: Purchase 6.7 new Crime Lite ML2's for casework analysts to more easily identify biological stains at their work areas. This objective was moved from the FY2011 DNA Grant Goal2 Objective D. The remaining portion of the last Crime Lite ML2 was purchased under the 2011 Grant. This objective was moved from the 2011 DNA Backlog Grant via GAN#324925, 2-14-13.

The Crime Lite ML2's were received on 7-24-13 and installed so each analyst has a Crime Lite at their individual work stations rather than having to share a unit at one of the two common shared work stations.

FINAL REPORT:

11-01-13

Completion of this final progress report is as follows:

Progress on this grant's objectives and goals was spelled out in the July-September 2013 Progress Report #7.

Goal 1:

Objective A: Implement a new DNA collection device and develop an online training program so the collection agencies can learn how to use the new collection device.

Since the new DNA collection kits were ordered, a new law was passed by the State Legislature in May 2013 to require certain individuals convicted of Aggravated Misdemeanors to submit DNA Samples to the Iowa convicted offender database. This was an expansion of the current convicted offender law; however, the law does not go into effect until July 1, 2014. Sample intake is expected to double once the new law goes into effect. The new DNA FTA collection kits should begin distribution in January 2014 through the Department of Corrections. The scheduled training programs that are in place in conjunction with the on-line video and planned Department of Corrections training should allow for a smooth transition to the new collection kits. The lab expects to get both types of DNA database collection kits for a significant period of time until the old swab collection kits are consumed.

Objective B: Validate and Implement an automated punch system that will punch the DNA FTA samples and place them in a microtiter plate ready for amplification.

The *validation* has been completed by Bode. The use of the BSD punch is working as projected. The *implementation* is not yet complete. SOP's are currently being written for the new process using the new Fusion Kit and 3500 CE unit. The lab has yet to implement the Beast CODIS module software into this process, but is working towards that goal. Further progress on all of these changes will be reported in the 2011 DNA grant as was noted in GAN# 249587 since it is being implemented as a total process with the new Direct Amplification Kit "Fusion".

Objective C: Validate and implement a new direct amplification kit.

This objective was moved to our FY11 DNA Backlog reduction grant via GAN# 249587. It is currently being completed. An update will be given in the 2011 Grant progress reports.

Objective D: Validate the GeneMapper ID-X software program and train staff on its use. This will be for both the PCO (database) and casework sections of the DNA Unit.

The implementation of GeneMapper ID-X into the Casework section has not shown a significant time savings (1-5%); however, the staff index or sample index comparison tool has been very helpful for the analysts. Also, the implementation of this software has the casework section ready for the future implementation of the new 3500 Genetic Analyzer (which uses GeneMapper ID-X) that will be implemented in 2014. Additionally, this software upgrade also came with new computers which were badly needed since two of the original GeneMapper ID computers, which were purchased from Applied Biosystems in 2006, failed this last year.

The use of this new software as an expert system in the Database section will take place after the complete validation of the whole new direct amp processing of samples using the FTA cards, BSD Punch, Fusion chemistry, 3500 Genetic Analyzer and Beast CODIS software module. Please note this progress in future DNA Grant progress reports for the 2011 DNA Grant.

Objective E: Purchase and install a new rolling storage unit to house the additional database samples

This objective was moved to our FY11 DNA Backlog reduction grant via GAN#249587 6-01-11.

Goal 2:

Objective A: Purchase 6.7 new Crime Lite ML2's for casework analysts to more easily identify biological stains at their work areas. This objective was moved from the FY2011 DNA Grant Goal2 Objective D. The remaining portion of the last Crime Lite ML2 was purchased under the 2011 Grant. This objective was moved from the 2011 DNA Backlog Grant via GAN#324925, 2-14-13.

The 6.7 Crime Lite ML2's that were purchased to spend down this grant have been installed in the casework unit. Each analyst now has a Crime Lite ML2 at their work area and no longer has to go to a common exam room when screening for biological stains. This has improved their ability for screening evidence for biological stains and increased the capacity for multiple analysts to screen evidence at the same time. The time savings vs. going to a common exam area is negligible, but much more convenient for the 7 examiners that are currently doing casework. If/when additional analysts are hired to screen evidence, it should ease the bottleneck for all analysts when they have to use the common exam room(s) to screen large items such as bedding or car seats for biological stains.

Objective B: Validate Powerplex 16 HS (Hot Start) in order to address ASCLD/LAB ISO 17025 audit findings concerning mixture interpretation guidelines. This objective was new and was added via GAN#264899, 9-12-11, and #249587, 6-01-11.

Powerplex 16HS was validated and placed into use in the fall of 2011 by the casework unit. By validating this new chemistry, new interpretation guidelines were created to meet DAB and QAS requirements for mixture interpretation. The validation was performed by outside vendor Bode for (\$78K). An additional (\$27K) was spent on consumables from this grant for that validation.

FY10 Recipient Name: Idaho State Police

Award Number: 2010-DN-BX-K156

Award Amount: \$161,260

Final Report:

GOALS AND OBJECTIVES OF PROJECT: Provide the Biology/DNA section with training for 6 analysts, equipment that will benefit both Database and Casework, and reagents and supplies that will allow us to provide service to our law enforcement agency customers.

The objective of this grant is to make the Database analysis process more efficient. Samples will be located in the laboratory where they will be processed; samples will be logged into the system in the laboratory; the purchase of the minicentrifuge and pipettes will eliminate the need to borrow these items from Casework; computers will allow access to online procedures and electronic analysis worksheets in the laboratory; a Biomek 3000 will simplify the tedious preparation of database samples. Automation with this system avoids contamination and decreases hands-on time for each process.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During this reporting period the following items were purchased:

Database sample filing system - received and installed;

3 desktop computers/monitors - not received at end of reporting period;

Minicentrifuge - received; and

Biomek 3000 w/Promega accessories - not received at end of reporting period.

One analyst has prepaid registration and purchased airfare for training.

All items received at this point were immediately put to use as there was no performance verification or validation required.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this reporting period, the analysts have either scheduled or attended the requested training. So far we have had analysts attend AAFS, Green Mountain DNA Conference, and

CAC 117th Seminar. All proposed equipment and supply purchases have been completed and received. The Biomek 3000 w/Promega accessories has been received and installed. As the instrument and chemistry requested was identical to the system already in place, only minimal performance verification was necessary after installation. There was no retraining of staff following the performance verification.

The mobile filing system was completed during this reporting period. The new system has increased our available storage by at least five times what we had. This will accommodate the samples we will be receiving with the new all felons legislation for the next several years. It also allows a little more flexibility for upgrades to increase capacity if necessary.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

During this reporting period, analysts attended training at Promega, MAFS and CODIS. The attendees provided reports of the presentations to the remainder of the staff thus benefitting the entire unit.

The performance verification and the additional automation validation were completed on the Biomek 3000. The instrument was not brought on-line during this reporting period due to analytical method updates pending approval.

The three desktop computers and monitors were installed in the laboratory and placed into service. This does save time because analysts do not have to stop the lab work to go to a different area to print their data. While this is not a huge impact on the database backlog, it does allow the analysts to spend more time in the lab rather than the office.

During this time the sole database analyst was removed from sample processing due to a quality issue. Retraining was necessary therefore no samples were analyzed during this time by this analyst.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period the Biomek 3000 was brought on-line and ## samples were processed.

The only qualified database analyst, while going through retraining, resigned during this reporting period. A second database analyst began training during this timeframe. Neither analyst was approved for the processing of database samples.

The new Biomek 3000 was used for analyst training and to process 156 database samples in conjunction with analyst training during the reporting period. The 156 samples were uploaded to CODIS.

FY10 Recipient Name: Illinois State Police

Award Number: 2010-DN-BX-K166

Award Amount: \$2,567,585

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

GOALS: Reduce the average number of days between case submission and delivery of test results, increase the number of forensic biology / DNA cases processed per month and/or reduce the forensic biology / DNA backlog* beyond that which could be accomplished without these funds. Funds from this program will be used to purchase supplies and equipment and provide overtime to existing staff.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During the reporting period no funds from this program were spent. We are currently spending down our 2009 DNA Backlog Reduction Grant. As soon as that is accomplished we will begin spending from this grant.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this reporting period, overtime and supply orders using the 2010 DNA Backlog Reduction Grant funds started. Productivity in DNA cases worked per analyst per month increased by 14.1%, however, the DNA backlog increased by 29%. The increase in backlog is due to a large increase in case submissions. During this reporting period there were 3,141 cases submitted. In the same time period in 2010 the number of cases submitted was 2,505. This is an increase in submissions of 25.3%. A new sexual assault law passed in 2010 requires agencies to submit all cases of sexual assault, including old ones that had never been submitted to the laboratory, for analysis. The law provided no funding or personnel for the ISP to handle the influx of cases.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

During this reporting period, July 1, 2011 through December 31, 2011, the Illinois State Police (ISP) continued utilizing funds provided through the 2010 DNA Backlog Reduction Grant to purchase supplies and work overtime. The process of procuring equipment has begun but due to procurement rules within Illinois it will take a little more time to complete. Although the backlog of DNA cases has increased the ISP worked slightly more DNA cases this reporting period compared to the same reporting period in 2010. A total of 2,470 DNA cases were worked from July 1, 2011 through December 31, 2011 while in the same period in 2010 the ISP worked a total of 2,439 DNA cases. The total number of cases over 30 days old awaiting only DNA analysis is 2,239. The ISP has seen a significant increase in the number of cases submitted over the past year. In 2010 the ISP received 5,423 DNA cases while in 2011 the number increased to 6,247.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period, January 1, 2012 through June 30, 2012, the Illinois State Police (ISP) continued utilizing funds provided through the 2010 DNA Backlog Reduction Grant to purchase supplies and work overtime. The ISP purchased new CODIS servers and the necessary software and two robots for the DNA Sections of the laboratories. Funding from the 2010 DNA Backlog Reduction Grant for overtime and supplies did not last through the entire reporting period. This report reflects only those cases worked using 2010 DNA Backlog Reduction Funds. Funds from the 2011 DNA Backlog Reduction Grant were also used in this reporting period. Cases worked with 2011 funds will be reported separately. The total number of cases over 30 days old awaiting only DNA analysis is 3,050. The ISP is still seeing an increase in the number of cases submitted. In 2010 the ISP received 5,423 DNA cases while in 2011 the number increased to 6,247. For the first six months of 2012 the ISP received 3,417 DNA cases. Projected out over all of 2012 the ISP will receive approximately 600 more DNA cases this year than last year.

FINAL REPORT:

During the course of this grant funding was used to pay for overtime, laboratory supplies, CODIS servers and associated items such as monitors, external tape drives, uninterruptible power supplies and software, and two DNA robots to assist in the automation process. The ISP spent less than \$1,000 per case in overtime and supply money during the time of this grant.

The Illinois State Police has finished spending funds received through this grant and will continue to use 2011 funds while seeking 2012 funds.

FY10 Recipient Name: Northeastern Illinois Regional Crime Laboratory

Award Number: 2010-DN-BX-K167

Award Amount: \$285,287

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: 90 % of all cases completed in 90 days. The average turnaround time will also be tracked. The time for case completion starts when the case is submitted and ends with the final administrative review. From past history, a bottle-neck completing cases involve the review process. For this metric, the time needed to complete the case is for the first report only. When additional work is needed, or additional submissions occur, the metric will only be applied to the first report.

Goal 2: CODIS entries: The number of CODIS entries cannot be predicted. However, all entries will be recorded and data submitted as part of the progress report.

Goal 3: Procurement of supplies: Supplies are a major portion of grant expenditures. In the last few years, what is requested by agencies and the types of cases submitted by agencies has greatly expanded. Supply costs are a reflection of this reality. Supplies are purchased on a continual basis.

Goal 4: Overtime: Overtime will be used for completing rush cases and peer reviewing cases. It is estimated that 200 cases will be reviewed with overtime. It is anticipated that overtime will be used principally for case peer review.

Goal 5: Cases analyzed with supplies obtained with this grant. It is estimated that 385 cases will be analyzed with supplies obtained with this grant.

Goal 6: Equipment purchases. The primary equipment will be a water system, pipettes and a refrigerator. The water system will provide clean water needed for DNA reagents. This is the only distilled water source in the lab. Pipettes are needed to replace units that are no longer in service. The refrigerator will replace an aged 20 year old model. The current model is also too small for most uses. The new unit will not have a freezer which is not needed.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

This grant has not yet been accessed. The 2009 DNA grant is still active.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: Partially met: all cases against persons have been started within 21 days of submission. However, most of cases against persons require additional testing and multiple reports. Subsequent analysis is often needed to finish a case. Additional standards are submitted as well as additional testing, depending on the agency needs. For example, a homicide was started in two days of submission. A

probative profile was found, that then needed comparison to several standards that were submitted two weeks post the first submission. In this case, the agency was provided with data within 30 days, but the case was not completed due to additional required analysis. As of June 30, 2011, 80% of all cases were completed in 40 days.

Goal 2: Met. All eligible profiles have been uploaded in CODIS. A total of 151 CODIS profiles were uploaded.

Goal 3: Met. Supplies are ordered on a routine basis.

Goal 4: Met. Overtime has been used to peer review cases. As of June 30, 2011, 52 cases were reviewed.

Goal 5: Cases analyzed with supplies obtained with this grant. Progress continuing, a total of 207 cases were analyzed with grant funds.

Goal 6: Not completed. Equipment has not yet been purchased.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: 90 % of all cases completed in 40 days

Met: All cases against persons have been started within 21 days of submission. However, most of cases against persons require additional testing and multiple reports. Subsequent analysis is often needed to finish a case. Additional standards are submitted as well as additional testing, depending on the agency needs. From July 1, 2011 to December 31, 2011, 80% of all cases were completed in 40 days. This statistic is also used as a measure of turnaround time for our performance. For the grant, we are measuring the turnaround time with an objective for analyzing 90% of all cases in 90 days. This goal was met, with a total of 96% of all cases were completed within 90 days of submission.

Goal 2: CODIS entries: Met. All eligible profiles have been uploaded in CODIS. A total of 163 profiles were uploaded to CODIS.

Goal 3: Procurement of supplies: Met. Supplies are ordered on a routine basis and are being used for casework.

Goal 4: Overtime: Met. Overtime has been used to peer review cases. A total of 166 cases were reviewed using overtime funds from July through December 2011.

Goal 5: Cases analyzed with supplies obtained with this grant.

Progress continuing, a total of 334 cases were analyzed with grant funds for supplies. An additional 166 cases were peer reviewed using overtime supplied by this grant.

Goal 6: Equipment purchases.

Progressing. A water system was ordered and installed. The lab now has a water system that filters water with a purity level needed for reagents, cleaning glassware, buffer solutions and other general cleaning procedures that requires de-ionized water. Pipettes were also purchased.

PROGRESS REPORT 4: January 1, 2012-June 30, 2012

Goal 1: 90 % of all cases completed in 90 days

Met: All cases against persons have been started within 21 days of submission. However, most of cases against persons require additional testing and multiple reports. Subsequent analysis is often needed to finish a case. Additional standards are submitted as well as additional testing, depending on the agency needs. From January 1, 2012 through June 30 2012, 87% of all cases were completed in 40 days. This statistic is also used as a measure of turnaround time for our performance. This data was calculated as the turnaround time for the first report.

Involved cases may have several reports, and it is not practical to calculate turnaround time when multi-section cases are submitted for testing. DNA analysis often has to wait until other sections have evaluated the evidence for processing. We are measuring the turnaround time with an objective for analyzing 90% of all cases in 90 days. This goal was met, with a total of 98% of all initial cases were completed within 90 days of submission.

A continual challenge to maintain turnaround time is peer and administrative reviews. The DNA section and management have initiated changes to elevate the review process to a higher priority. However, there are situations, rush cases, illness, vacations, meetings etc. of which the review process is delayed. There is recognition that this issue will be on-going, and to place an unwarranted stressor on staff for the review process would be self-defeating. It is a process that is essential, but it is only one of many high priority processes.

Goal 2: CODIS entries: Met. All eligible profiles have been uploaded in CODIS. A total of 144 profiles were uploaded to CODIS. All eligible forensic DNA profiles obtained with funding from this program have been entered into the Combined DNA Index System (CODIS).

Goal 3: Procurement of supplies: Met. Supplies are ordered on a routine basis and are being used for casework. It is noted that the number of samples dropped this period. NIRCL is now using Real Time to screen for levels of DNA for touch samples. When the amount of DNA is under a threshold, further testing on the CE is not performed. This lowers the number of samples tested without impacting the end result. It also will reduce the funding used to support DNA analysis of supplies needed to operate the CE units. Almost all the funds for supplies have been exhausted. It is anticipated that all funds will be used by the end of July 2012.

Goal 4: Overtime: Met. Overtime was not used this reporting period.

Goal 5: Cases analyzed with supplies obtained with this grant.

Met: A total of 323 cases were analyzed with grant funds for supplies during this reporting period. The number of cases completed with this grant surpassed the goals.

Goal 6: Equipment purchases.

Progressing. A refrigerator will be purchased in July with a September of 2012 delivery date.

FINAL REPORT

Goal 1: 90 % of all cases completed in 90 days

Met: All cases against persons have been started within 21 days of submission. However, most of cases against persons require additional testing and multiple reports. Subsequent analysis is often needed to finish a case. Additional standards are submitted as well as additional testing, depending on the agency needs. By the end of this reporting period, 7% of the backlog cases were over 90 days old. All of the 7% cases were burglaries.

Performance metrics in Table 3 for average number of days, average number of samples and number backlogged forensic samples reflect data derived from July 1, 2012-September 2012.

The total number of cases analyzed and delivered to the requesting agencies was 1127 cases.

This included 218 cases reviewed with overtime.

Involved cases may have several reports, and it is not practical to calculate turnaround time when multi-section cases are submitted for testing. DNA analysis often has to wait until other sections have evaluated the evidence for processing. We are measuring the turnaround time with an objective for analyzing 90% of all cases in 90 days. This goal was met, with a total of 98% of all initial cases were completed within 90 days of submission. From the period of July 1, 2012 through September 30, 2012, a total of 179 DNA cases were analyzed. There were no cases over

90 days old completed that did not have at least one report already completed. In the backlog there are 8 burglary cases over 90 days old.

A continual challenge to maintain turnaround time is peer and administrative reviews. The DNA section and management have initiated changes to elevate the review process to a higher priority. However, there are situations, rush cases, illness, vacations, meetings etc. of which the review process is delayed. There is recognition that this issue will be on-going, and to place an unwarranted stressor on staff for the review process would be self-defeating. It is a process that is essential, but it is only one of many high priority processes.

Goal 2: CODIS entries: Met. All eligible profiles have been uploaded in CODIS. A total of 518 profiles were uploaded to CODIS. All eligible forensic DNA profiles obtained with funding from this program have been entered into the Combined DNA Index System (CODIS).

Goal 3: Procurement of supplies: Met. Supplies are ordered on a routine basis and are being used for casework. It is noted that the number of samples dropped this period. NIRCL is now using Real Time to screen for levels of DNA for touch samples. When the amount of DNA is under a threshold, further testing on the CE is not performed. This lowers the number of samples tested without impacting the end result. It also will reduce the funding used to support DNA analysis of supplies needed to operate the CE units. Almost all the funds for supplies have been exhausted. It is anticipated that all funds will be used by the end of July 2012.

Goal 4: Overtime: Met. A total of 218 cases were reviewed with overtime funds. The goal was 200 cases reviewed. (Please note that 207 cases were reported completed with overtime and supply funds, however this did not include 52 cases peer reviewed with overtime for the period of Jan-June 2011).

Goal 5: Cases analyzed with supplies obtained with this grant.

Met: Grant funds supported the use of supplies for a total of 961 cases. The number of cases completed with this grant surpassed the goals. Goals were surpassed for several reasons. One, NIRCL started using REAL TIME DNA quantitation values to determine if further testing is warranted. This saved time and money for supplies. The peer/administrative review process was streamlined making the whole section more efficient. A policy of analyzing one item of touch DNA from burglary cases resulted in more cases being analyzed.

Goal 6: Equipment purchases.

Met. Pipettes, a water system and refrigerator have been purchased, installed and are all in operations. The refrigerator replaced a 20 year old model and is large than the older model. Pipettes replaced older units and added new units to the inventory. The water system is routinely utilized.

Grant effects are discussed with the above metrics. However, one of the strongest effects is one rarely discussed. Just having a grant that requires checking metrics, efficiency, turnaround time and general management principals encourages all staff to improve their performance. We just had a DNA meeting to discuss how we can improve our performance. The grant encourages improvement just by requesting the evaluation of metrics that improves performance.

The average turn-around time is under 40 days for all DNA cases. This is a comfortable number for our customers. It is also accurate that without grant support throughout the years, this would not be possible. This report summarizes activity for this reporting period. However, it should be recognized that without the consistent support of these grants over several years, the progress of DNA analysis would never have been realized. The efforts to obtain support for DNA analysis are deeply appreciated.

Case Highlights:

A 10 year old girl identified a suspect who was alleged to have sodomized the girl. Using grant funds for STR and Y-STR, we were able to determine that the girl was sodomized, however, not by the suspect. This information led investigators to the correct suspect. There have been dozens of CODIS hits involving burglaries in our area. CODIS reports have an average turnaround time of nine days.

FY10 Recipient Name: DuPage County Sheriff Department, Illinois

Award Number: 2010-DN-BX-K146

Award Amount: \$285,287

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- GOAL 1: Lower average turn-around time for DNA assignments to <30 days while increasing the number of items analyzed per FTE analyst per month from 20.
- GOAL 2: Administer 2 graduate courses to an existing forensic biologist for compliance with the educational requirements of the FBI QAS for a DNA analyst.
- GOAL 3: Administer ~60 hours of continuing education to existing DNA analysts.
- GOAL 4: Advance the technological capabilities of the DNA section through the validation of new methods and procedures.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- GOAL 1: No expenditures have been made from this grant; no progress made.
- GOAL 2: No expenditures have been made from this grant; no progress made.
- GOAL 3: No expenditures have been made from this grant; no progress made.
- GOAL 4: No expenditures have been made from this grant; no progress made.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- GOAL 1: Average turn-around appears to be increasing, but this is mainly due to vacations during this reporting period. Currently, there are only 12 cases older than 30 days.
- GOAL 2: No expenditures have been made toward this goal yet; no progress made.
- GOAL 3: No expenditures have been made from this grant yet; no progress made.
- GOAL 4: The 3500 Genetic Analyzer was purchased & installed during this reporting period. All analysts received 2.5 days of training from the manufacturer regarding its use. The software upgrade required to analyze & protect data from this instrument was purchased and received. Additionally, supplies were purchased for back-log analysis of cases (PowerPlex 16 HS kit, DNA IQ Casework Kits, Y-Filer kits).

****SPECIAL REPORT 1:** In the performance metrics for Progress Report Number 2 for this grant (2010-DN-BX-K146), covering period 01-Jan-2011 to 30-Jun-2011, the following question was incorrectly answered: "At the end of this reporting period, what was the average number of samples analyzed per analyst per month?". The incorrect answer provided was 13.4. The correct answer is 26.7

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- GOAL 1: We are making progress toward this goal. The average turn-around time is dropping and the number of samples analyzed per FTE analyst is increasing (see

metrics above). The salaried grant-funded DNA analyst began to be compensated out of this grant on September 30, 2011. The grant-funded DNA analyst completed 24 cases (resulting in 7 specimens uploaded to CODIS and 4 CODIS hits) from September 30, 2011 until the end of the reporting period. The cases were completed during the analysts' normal working hours using supplies funded by the grant (no overtime funds were used by the grant-funded analyst). Therefore, these cases were included in the metrics for cases aided by the grant and not counted in the Optional metric. A combination of overtime and supplies was used to complete the remaining cases being reported as being aided by the grant.

GOAL 2: The existing forensic biologist has achieved her Master's degree. Funds have been expended in this period to help another analyst achieve her Master's degree; this analyst has successfully completed 2 graduate courses during this reporting period.

GOAL 3: Analysts have received at least 8 hours of continuing education, as specified by the FBI QAS (9/1/2011) 5.1.3.1.b. Four DNA analysts have attended training during the reporting period. Training was achieved at the Midwestern Association of Forensic Scientists (September, 2011; one analyst for 12 hours), the International Symposium on Human Identification (i.e., Promega, October, 2011; two analysts for a total of 28 hours), and Training Connection (one analyst for 16 hours).

Training was also received in support of equipment purchased from this grant (Applied Biosystems 3500) in the prior reporting period but was not reported. This training was attended by 5 analysts.

A total of 119 hours of training was received; however, due to careful stewardship of the grant funds, we anticipate being able to fund additional QAS training for 2012.

GOAL 4: Additional software upgrades required to analyze store casework data in paperless format was purchased and received. Also, the laboratory began investigating a new technology that allows a rapid analysis of sexual assault samples that require differential extraction (the Erase Sperm Isolation kit). Differential extractions are time-consuming and susceptible to variable results between analysts. The project is on-going. No further validation progress has been made during the reporting period.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

GOAL 1: Lower average turn-around time for DNA assignments to <30 days while increasing the number of items analyzed per FTE analyst per month from 20.

The number of samples analyzed per FTE analyst is stabilized and likely reflects the limits of evidence submission based on the crime rate in this laboratory's jurisdiction. The average TAT remains high due to concentration of efforts in validating new technologies that will pay dividends in the future. When the grant-funded DNA analyst completed their cases using supplies funded by the grant, these cases were included in the metrics for cases aided by the grant and not in the Optional metric. A combination of overtime and supplies was used to complete the remaining cases being reported as being aided by the grant.

GOAL 2: Administer 2 graduate courses to an existing forensic biologist for compliance with the educational requirements of the FBI QAS for a DNA analyst.

This goal has been completed.

GOAL 3: Administer ~60 hours of continuing education to existing DNA analysts.

This goal has been completed.

GOAL 4: Advance the technological capabilities of the DNA section through the validation of new methods and procedures.

During this reporting period, significant progress was made toward validating a robotic normalization/PCR set-up robot (the “Qiagility”) and to validate a faster genetic analyzer (the “3500”). Unfortunately, efforts to implement a technology that allows a rapid differential extraction (the Erase Sperm Isolation kit) was suspended indefinitely due to lack of satisfactory outcomes. If time allows, further research into this method could target specific concerns developed during the validation, and what was learned during the course of the validation has been extremely valuable in evaluating the laboratory’s work flow.

FINAL REPORT:

GOAL 1: Lower average turn-around time for DNA assignments to <30 days while increasing the number of items analyzed per FTE analyst per month from 20.

The average TAT remains high and has increased 80% relative to the start of the project.

Responsibility for the increase is attributed to three factors. (1) As mentioned previously, grant funds have been used to focus on validating new technologies that will pay dividends in TAT in the future. During the most recent reporting period, grant funds paid for the grant-funded analyst to validate the laboratory’s first multi-capillary genetic analyzer (the 3500). Due to the focused efforts in validating the 3500, Identifiler Plus, and GeneMapper ID-X, no cases were worked by this grant-funded analyst during the most recent reporting period (7/1/2012-9/30/2012); however, during the entire project period, the (part-time) grant-funded analyst completed 28 cases, resulting in 13 DNA profiles being uploaded to CODIS, which then resulted in 8 CODIS hits.

Some dividends are already being realized. For example, in the last 30 days (11/13-12/13/2012), the laboratory has reported 43 DNA cases with an average TAT of 39 days – very close to the original goal of 30 days. However, this period is outside the reporting period for this project. (2) The number of unfunded mandates from accrediting or authoritative agencies has increased the burden on the laboratory dramatically during the project period, particularly in relation to CODIS responsibilities and the loss of free QAS audits. Small laboratories like ours feel these effects more dramatically, since we have fewer people to delegate the same number of responsibilities to. (3) These grant funds have helped backlogs in the DNA Section remain at manageable levels, but other sections in the laboratory have accumulated significant backlogs during this project period. In response, the Laboratory Director has re-assigned laboratory duties (such as LIMS Administrator and Health & Safety Manager) to DNA analysts, diluting their focus on DNA activities. DNA analysts have had to assume more case-screening duties because the Lab Director assigned a forensic biologist (who previously screened DNA cases) to analyze cannabis cases and conduct administrative reviews for other disciplines during part of their work schedule. All three factors have made it more difficult for the DNA analysts to reduce (or even maintain) turn-around time during the project period and have caused the DNA backlog to quadruple during the final reporting period.

The number of samples analyzed per analyst per month has likely stabilized, however, and there are no plans to change the work process to increase this number. This number is heavily influenced by the volume of case submissions, the TAT, and the laboratory’s desired work-flow. If only 30 items are submitted during a month, and the laboratory wishes to have one analyst cover the first two weeks and a second analyst take the last two weeks, and the

TAT is one day, then the average will 15. The reporting period for this report (7/1-9/30) was comparatively short and therefore more susceptible to aberrations, but the reported 17 samples per analyst per month is in keeping with the stated goal of 20. The two most recent 6-month reporting periods have an average of >30 samples per analyst per month, and it appears that this will be typical for this laboratory. This portion of the goal was successfully completed early in the project, due to improvement in laboratory instruments purchased with these grant funds.

During this reporting period, the grant-funded DNA analyst did not use any using supplies, over-time, or other back-log designated funds, because they were being utilized in the capacity-enhancement function of validating the laboratory's 3500, GMID-X, and the Identifiler Plus kit. Overtime was used to complete the cases being reported as being aided by the grant. The laboratory maintains a database to ensure that each case counted during the project was only counted once (regardless of the number of reports associated with the case), and that it was not counted as either an aided case or in the Optional metric, but not both.

GOAL 2: Administer 2 graduate courses to an existing forensic biologist for compliance with the educational requirements of the FBI QAS for a DNA analyst.

This goal has been completed. The funds were used as specified to pay tuition costs.

GOAL 3: Administer ~60 hours of continuing education to existing DNA analysts.

This goal has been completed as stated in Progress Report #3. As anticipated, funding remained and was available to send one additional analyst for 2012 training (28 hours).

GOAL 4: Advance the technological capabilities of the DNA section through the validation of new methods and procedures.

As of the close of this project, the laboratory has validated a 3500, GMID-X, Identifiler Plus, and a Qiagility robotic instrument for automated set-up of QPCR tests, normalization of DNA extracts, and set-up of DNA-typing tests. The theoretical TAT for a case is now one day and a half. The laboratory utilizes several part-time employees that work shorter work days; the reduced analytical time allows them to get further in the analysis during a work day. Despite other challenges mentioned above (reference "Goal 1"), back-log and TAT in the DNA Section are manageable, and beyond the project period are expected to decline significantly.

Funds have been used to purchase DNA typing kits, the 3500 genetic analyzer, and related consumables, and software. Funds were also used (in Goal 3) to obtain training for use of these new technologies and to provide the staff (i.e., a grant-funded DNA contractor) to assist in the validation.

FY10 Recipient Name: Indiana State Police

Award Number: 2010-DN-BX-K150

Award Amount: \$619,386

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To reduce the casework backlog by allowing analysts to work overtime.

Goal 2 - To increase capacity of the DNA lab by providing contracts for maintenance of the LIMS System and DNA instruments.

Goal 3 - To increase capacity of the DNA lab by providing continuing education for biology personnel.

- Goal 4 - To increase capacity of the DNA lab by new and replacement equipment.
Goal 5 - To reduce the casework backlog through the outsourcing of backlogged DNA cases.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 - In this reporting period ISP DNA analysts worked 770 hours of grant funded overtime impacting 268 cases. These cases resulted in 110 profiles being entered into CODIS which yielded 36 CODIS hits.

Goal 2 - Funds were paid for the annual LIMS maintenance agreement.

Goal 3 - No continuing education was provided in this reporting period due to prior year grant funding.

Goal 4 - No equipment was purchased under this award due to prior year grant funding.

Goal 5 - No DNA cases were outsourced under this award due to prior year grant funding.

Performance Metrics Note: The number of samples analyzed per analyst per month seems to have dropped significantly. This may just be due to time off that many analysts take at the end of the year, thus reducing overall unit productivity at the end of the reporting period. Another potential cause may be that the reduced backlog led to analysts working with smaller batches. While working smaller batches may improve the case turnaround time, the overall number of samples processed will be reduced.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - In this reporting period ISP DNA analysts worked 1566 hours of grant funded overtime impacting 469 cases. These cases resulted in 185 profiles being entered into CODIS which yielded 69 CODIS hits.

Goal 2 - Two ABI 7500s that were included in the maintenance agreement were repaired.

Goal 3 - Three forensic biologists attended external training. Annual DNA in-service training was provided for the entire Biology Section.

Goal 4 - Four refrigeration units were purchased for evidence and reagent storage. An autoclave, 4 thermal cyclers, 2 UPSs, pipettors and a hot plate/stirrer were purchased for examination of biological evidence.

Goal 5 - Seven criminal paternity cases were outsourced for interpretation and statistical calculations during this rating period.

Performance Metrics Notes

Using the same procedure for turnaround time as before demonstrates improvement from 42 to 30 days. A revised method of generating this data that accounts for the fact that some cases are worked by separate serology and DNA analysts has been developed. The actual time to complete the entire case is longer as compared to cases worked start to finish by one analyst. Using the revised method the average case turnaround is 60 days. CODIS hit reports, which take only a few days, were not included in this statistic, since no additional evidence is submitted and no evidence testing is conducted. Including hit reports changes the average number to 53 days.

The number of samples analyzed per analyst per month is slightly lower than at the beginning of the award period. This is likely due to several analysts being assigned duties in addition to casework. One analyst was working on the validation on PowerPlex 16 Hot Start, four were working on setup and validation of automation and two were working on YSTR validation.

Correction to Last Report

The number of cases analyzed for the October-December 2010 reporting period was reported as 413 in the Performance Metrics. This number should have been 268. The incorrect number failed to account for cases where an analyst worked overtime on the same case in multiple pay periods, and cases where two analysts worked overtime on the same case (one for serology and a second on DNA analysis). Under Goals #1 of the attachment the correct number was reported, but this was not consistent with the Performance Metrics.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 - In this reporting period ISP DNA analysts worked 1148 hours of grant funded overtime impacting 357 cases. These cases resulted in 103 profiles being entered into CODIS which yielded 47 CODIS hits.

Goal 2 – Annual preventive maintenance was conducted for all Applied Biosystems 3130 and 7500 instruments. Additionally a hard drive was replaced for one 7500 and a pump was replaced for one 3030.

Goal 3 - Four forensic biologists attended external training including: one to the Promega Symposium, one to the MAFS Meeting and two to a Beckman Class for operation and maintenance of the robots.

Goal 4 – The ABI 3500 genetic analyzer that will be used for in-house analysis of offender samples was purchased and delivered.

Goal 5 – The ability to interpret criminal paternity cases in-house was attained making outsourcing to this analysis no longer necessary.

Performance Metrics Notes

Using the same process to generate the turnaround time as was used at the start of the grant demonstrates a very slight increase from 30 to 31 days. A revised method of generating this data that accounts for the fact that some cases are worked by separate serology and DNA analysts has been developed. The actual time to complete the entire case is longer as compared to cases worked start to finish by one analyst. Using the revised method the average case turnaround is 57 days. CODIS hit reports, which take only a few days to complete, were not included in this statistic, since no additional evidence is submitted and no evidence testing is conducted. Including hit reports changes the average number to 53 days. Again the number of samples analyzed per analyst per month is lower than at the beginning of the award period. This is likely due to several factors including a change over to PowerPlex 16 HS, and start up of automation and YSTRs.

Correction to Last Report: The average number of samples analyzed per analysts per month was changed for the Jan-June 2011 period from 73 in the previous report to 44 in this report. Two factors necessitated this change. First it was realized that the total number of samples analyzed for 6 months was divided by only 3 months. Second, the number of samples analyzed was divided by 39 analysts, but only 32 analysts contributed to the analysis.

PROGRESS REPORT 4: January 1, 2012 – March 1, 2012

Goal 1 - In this reporting period ISP DNA analysts worked 15 hours of grant funded overtime impacting 9 cases. These cases did not result in any additional profiles being entered into CODIS.

Goal 2 – No activity occurred during this progress period.

Goal 3 - No activity occurred during this progress period.

Goal 4 – The ABI 3500 genetic analyzer that will be used for in-house analysis of offender samples was installed by the vendor. Test samples were run and analyzed. The data quality was not as good expected, so the vendor was contacted and an appointment was scheduled to troubleshoot and/or repair the instrument.

Goal 5 – The ability to interpret criminal paternity cases in-house was attained making outsourcing of this analysis no longer necessary.

Performance Metrics Notes

Using the same process to generate the turnaround time as was used at the start of the grant demonstrates a slight decrease from 31 to 29 days. A revised method of generating this data that accounts for the fact that some cases are worked by separate serology and DNA analysts has been developed. The actual time to complete the entire case is longer as compared to cases worked start to finish by one analyst. Using the revised method the average case turnaround is 45 days. This represents a 12 day decrease from the last reporting period. CODIS hit reports, which take only a few days to complete, were not included in this statistic, since no additional evidence is submitted and no evidence testing is conducted. This decrease may be due to the approval and use of automation for casework which started in January 2012. DNA robots were purchased with 2009 DNA grant funding, but due to time required for validation, just became operational.

The number of samples analyzed per analyst per month is higher than the previous reporting period. This is likely due to analysts being for adjusted and comfortable with the changeover to automation, PowerPlex 16 HS and associated new interpretation guidelines.

Correction to Last Report

The number of cases analyzed and delivered to the requesting agency was reported as 413 cases in report# 1 covering the Oct 2010 to Dec 2010 period. During the second reporting period it was realized that some cases were double counted in the first period and the number was corrected to 268 cases. In moving to the current progress report format in report #3 the original incorrect number of 413 was carried over. This report again corrects that to 268 cases.

FINAL REPORT:

Goal 1 – Personnel funds were used to work 3499 hours of grant funded overtime impacting 1103 cases. These cases resulted in 398 profiles being entered into CODIS which yielded 152 CODIS hits. Laboratory IT staff used 25 hours of grant funded overtime to set up a server and system for storage of DNA casework data and assist the CODIS and casework analyst as needed.

Goal 2 – Funds budgeted for contracts were used for maintenance agreements for The LIMS system and DNA equipment. Annual preventive maintenance was conducted for all Applied Biosystems 3130 and 7500 instruments. Additionally contracted service kept instruments operational by replacing hard drive for one 7500 and a pump for one 3130.

Goal 3 – All DNA analysts were provided required continuing education. A DNA in-service training was conducted for all analysts. Additionally one analyst received outside training at each of the following: the Promega Symposium, MAFS Meeting, Promega Direct Amp workshop, Missing and Unidentified Person Workshop, AAFS Meeting, and Bode DNA Workshop. Two analysts attended a Beckman

Class for operation and maintenance of the robots and 9 attended an in-service on YSTRs.

Goal 4 – The ABI 3500 genetic analyzer that will be used for in-house analysis of offender samples was purchased, delivered and installed. A service call has been scheduled to optimize the instrument. Two new repeat pipettors, a refrigerator and Harris punch were also purchased for CODIS. Replacement equipment purchased included, 3 thermal cyclers, 8 pipettors, an autoclave, a hotplate/stirrer and 4 refrigerators

Goal 5 – Interpretation and statistical calculations for DNA profiles from 7 criminal paternities was outsourced. The ability to interpret criminal paternity cases in-house was attained during the grant making outsourcing additional cases for this analysis unnecessary.

Program Successes:

Grant funding resulted in 1103 cases being worked and 152 CODIS hits being generated. These cases would not have been able to be completed in the same timeframe without grant funded overtime. Completion of these cases had a positive impact on the backlog and case turnaround time.

Equipment purchased will give ISP the ability to analyze offender samples in-house for the first time since the Indiana program started in 1996.

Replacement equipment and service contracts aided in keeping analysts productive.

FY10 Recipient Name: Marion County-Indianapolis Forensic Services Agency, Indiana

Award Number: 2010-DN-BX-K200

Award Amount: \$366,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goal of this proposal is to present a plan that will reduce DNA case turnaround time, increase the throughput and reduce the DNA casework backlog, in addition to, enhancing the capacity of the Indianapolis-Marion County Forensic Services Agency to analyze DNA samples efficiently and cost effectively.

The objective is to use a combination of:

- Personnel and overtime (1);
- Employee training and development (2);
- Maintaining equipment and licensing (3);
- Supplies for scientists to analyze backlogged cases (4);
- DNA case outsourcing (5),
- Internal ASCLD/LAB-ISO audit (6).

These purchases and services will enhance the laboratory's ability to reduce DNA case backlog and turn around time.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

For questions 7-10:

No funds were used for personnel, outsourcing, or supplies during this reporting period.

During this reporting period, funds were used to purchase the LIMS User Agreement, as

requested in the proposal.

No other funds were used during this reporting period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

GOAL 1: Funds during this period were used to continue the Case Scanning Project and overtime for the Biology Unit. Funds were also used for salary for the Forensic Laboratory Technician.

GOAL 2: Funds under this grant award funded training and development for six (6) employees. Training included: AFQAM Annual Conference, JusticeTrax User group meeting, and BODE training, Funds also covered tuition costs for two (2) employees as they obtain their Masters in Forensics.

GOAL 3: Funds for this reporting period were used to continue maintenance agreements on equipment used in the Biology Unit, to include the ABI9700, ABI 3130, and theABI7500. Funds were expended to cover the annual maintenance for Qualtrax, the forensic document management system.

GOALS 4-6: No activity for these goals during this reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

GOAL 1: Funds during this period were used to continue overtime to process cases with DNA evidence, and the salary for the Forensic Laboratory Technician.

GOAL 2: Funds under this grant award provided training and development for three (3) employees. Training included travel expenses for ASCLD Annual Meeting, and MAFS Annual Conference. Funds were also used for tuition reimbursement for two (2) Biology Unit employees.

GOAL 3: No activity for this goal during this reporting period. GOAL COMPLETED.

GOAL 4: Funds for this reporting period were used to purchase Quantifiler Kits for use in the Biology Unit.

GOAL 5: Funds for this reporting period were used for outsourcing cases to Strand Laboratory and Orchid Cellmark. There were 14 cases outsourced during this period. GOAL COMPLETED.

GOAL 6: Funds for this reporting period were used to complete the laboratory's internal audit. GOAL COMPLETED.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

GOAL 1: Funds were used for the salary of the Forensic Laboratory Technician. During this reporting period the technician completed a triage of the backlogged cases and was able to cancel 51 requests for analysis after speaking with law enforcement agency investigators and the Marion County Prosecutors Office.

GOAL 2: Funds were used toward tuition costs for two (2) employees as they obtain their Masters in Forensics.

GOAL3: Goal completed.

GOAL 4: No activity for this goal occurred during this grant period.

GOAL 5: Goal completed.

GOAL 6: Goal completed.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

GOAL 1: Funds were used for the salary of the Forensic Laboratory Technician. During this reporting period the technician completed a triage of the backlogged cases and was able to cancel 113 requests for analysis after speaking with law enforcement agency investigators and the Marion County Prosecutors Office. Evidence processed by the technician led to forensic analysis that resulted in 3 CODIS uploads with successful CODIS Hits on 2 of those cases.

GOAL 2: Funds were used toward tuition costs for two (2) employees as they obtain their Masters in Forensics. Additional tuition expenditures will be through another federally funded DNA Backlog Reduction Grant. GOAL COMPLETED

GOAL3: Goal completed.

GOAL 4: Funds for this reporting period were used to purchase Identifiler Kits for use in the Biology Unit. These kits were used to process cases funded though federal grant funds. GOAL COMPLETED

GOAL 5: Goal completed.

GOAL 6: Goal completed.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013 (January 1, 2013 – March 31, 2013)

GOAL 1: Funds were used for the salary of the Forensic Laboratory Technician. During this reporting period the technician completed a triage of the backlogged cases and was able to cancel 74 requests for analysis after speaking with law enforcement agency investigators and the Marion County Prosecutors Office. Evidence processed by the technician led to forensic analysis that resulted in 3 CODIS uploads with successful CODIS Hits on 2 of those cases... GOAL COMPLETED

GOAL 2: GOAL COMPLETED

GOAL3: GOAL COMPLETED

GOAL 4: GOAL COMPLETED

GOAL 5: GOAL COMPLETED

GOAL 6: GOAL COMPLETED

FINAL REPORT: (March 31, 2013 – end of grant period)

Federal funding from this award were used to complete the following goals:

Personnel and overtime (1);

Employee training and development (2);

Maintaining equipment and licensing (3);

Supplies for scientists to analyze backlogged cases (4);

DNA case outsourcing (5),

Internal ASCLD/LAB-ISO audit (6).

GOAL ONE: A Forensic Laboratory Technician was hired under this grant proposal and has been a great asset to the Biology Section. The Forensic Lab Technician assists the scientists by preparing evidence for analysis, maintaining reagents, and triaging the requests for analysis. As a result, there were 164 requests cancelled due to various issues, i.e., dismissal, plea agreement. This, of course, greatly assisted in the reduction of the section's backlog. Funds were also used for overtime to process cases with DNA evidence. This was critical to the section due to 'Touch DNA' requests. Funds were also used to complete the Case Packet Scanning project. This project completion allowed for an increase in efficiency by eliminating case file cabinets and replacing them with work areas and evidence intake areas.

GOAL TWO: Employee training and development was completed during this grant period, to include training through BODE, JusticeTrax, MAFS, AFQAM, and ASCLD Conferences, and the completion of two Master's programs by employees of the DNA Section. Due to the drastic budget cuts by local entities, training is no longer available through local funds. DNA Training has been completed solely through federal funding of the DNA Backlog Reduction Grant.

GOAL THREE: Unfortunately, local budget cuts also included "services," such as maintenance agreements. As a result, funds were requested to maintain the Biology Unit's of equipment in order to ensure proper results. During the grant period, funds were used to continue maintenance agreement for the ABI9700, ABI3130, and the ABI7500. Funds were also used for the forensic document management system (QUALTRAX) maintenance agreement and the LIMS User Agreement (JusticeTrax) for the employees in the Biology Section.

GOAL FOUR: All supplies purchased using federal grant funds, were purchased for use in the Biology Section. These supplies include Quantifiler and Identifiler Kits.

GOAL FIVE: The opportunity to outsource Biology Unit cases resulted in greatly assisting the Unit's goal to reduce the case backlog. Funds were used to outsource cases to Strand Laboratory and Orchid Cellmark. There were fourteen cases outsourced and completed using grant funds.

GOAL SIX: The annual internal audit is critical to the laboratory in that it provides us a snapshot view of the current status of compliance of our laboratory accreditation. It is as a result of these audits that the Biology Unit can review issues that may result from the audit. This allows the laboratory to ensure compliance before the required external DNA audit.

The overall goal of this project was to decrease the DNA backlog while increasing efficiency in the Unit. The projected goal was to decrease the backlog by completing 116 DNA cases through the use of federal funds. The backlog stood at 736. With the addition of the Forensic Laboratory Technician, the Unit was able to assign case triage, reagent preparation, evidence processing, and scheduling equipment maintenance, which allowed the scientists additional time to complete cases. The backlog, as of the end of the grant period of 3/31/13, was 421, which is an approximate decrease of 43%. Personnel working overtime to assist in the reduction of the backlog resulted in a total of 323 cases being completed. If it's taken into consideration, that the grant was extended an additional 12 months, the proposed number would increase to approximately 188 cases completed. The Biology Unit still far exceeded that goal. It was through the use of Federal funds that the laboratory had the resources available to accomplish and exceed the goal. It was through the use of federal funds that 54 profiles were uploaded into CODIS, resulting in 6 CODIS Hits.

Through the use of federal funds, the Biology Unit has greatly decreased the backlog through overtime and the addition of a Forensic Laboratory Technician; increased efficiency through additional work and analytical space, and provided training/education to 11 employees.

FY10 Recipient Name: Johnson County Kansas

Award Number: 2010-DN-BX-K159

Award Amount: \$146,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective 1: Dedicate personnel for biological screening and DNA analysis.

Objective 2: Increase analysis of biological evidence on violent crimes and burglaries.

Objective 3: Reduce backlogged DNA casework primarily for UCR part 1 crimes.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The (FY2010) Forensic DNA Backlog Reduction Program grant was officially awarded to the Johnson County Sheriff's Office Criminalistics Laboratory on September 16, 2010. No progress was made on this grant in the first quarter due to the open (FY2009) Forensic DNA Backlog Reduction Program grant. It is anticipated that the (FY2009) grant will be completed by July 31, 2011. Shortly thereafter, action towards completing the (FY2010) Forensic DNA Backlog Reduction Program grant will commence. There are no equipment purchases or outsourced casework analyses to be performed under the (FY2010) Forensic DNA Backlog Reduction Program grant.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The (FY2010) Forensic DNA Backlog Reduction Program grant was officially awarded to the Johnson County Sheriff's Office Criminalistics Laboratory on September 16, 2010. No progress was made on this grant in the second and third quarters due to the open (FY2009) Forensic DNA Backlog Reduction Program grant. It is anticipated that the (FY2009) grant will be completed by July 31, 2011. Shortly thereafter, action towards completing the (FY2010) Forensic DNA Backlog Reduction Program grant will commence. There are no equipment purchases or outsourced casework analyses to be performed under the (FY2010) Forensic DNA Backlog Reduction Program grant.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The (FY2010) Forensic DNA Backlog Reduction Program grant was officially awarded to the Johnson County Sheriff's Office Criminalistics Laboratory on September 16, 2010. No progress was made on this grant in the first, second, and third quarters due to the open (FY2009) Forensic DNA Backlog Reduction Program grant. The (FY2009) grant was completed on July 13, 2011 and work towards accomplishing the goals for this grant commenced shortly thereafter. There are no equipment purchases or outsourced casework analyses to be performed under this grant. On May 26, 2011, the Program Manager approved a change of scope GAN to use the awarded funds to pay the salary and benefits for three Forensic Scientists instead of two Forensic Scientists. This change would decrease the term of the award period to approximately 32 weeks. It is anticipated that the funding for this grant will be expended on or before March 31, 2012.

Objective 1: Dedicate personnel for biological screening and DNA analysis.

This objective has been achieved and is a work in progress. Funding for the salaries and benefits for three Forensic Scientist (FS) positions was drawn down during this reporting period. All of the grant funded FS positions are fully trained, proficiency tested, and perform casework examinations in biology processing and DNA analysis. Generally, any given case is assigned to one FS who works the case from start to finish (biology processing and DNA analysis). In the Biology section, any given case is tracked as two separate examinations. First, the evidence will be examined for biological evidence and will be statistically tracked as (1) biology case with (x) items analyzed. If biological material is indicated or identified, the evidence will be examined for DNA. The DNA examination of that same case will be statistically tracked as (1) DNA case with (x) DNA samples analyzed. The forensic casework productivity statistics for all three grant funded FS position during the fourth and fifth quarters (July 14, to Dec. 31, 2011) are listed below:

Number of Biology cases analyzed –128 DNA profiles entered into CODIS – 84

Number of Biology items analyzed – 489 Number of CODIS hits – 7

Number of DNA cases analyzed – 126

Number of DNA samples analyzed – 465

Objective 2: Increase analysis of biological evidence on violent crimes and burglaries.

This objective has been achieved to date and is a work in progress. Priority analysis is given to UCR part 1 violent crimes and burglaries. There are seven FS positions assigned to the Biology section (4 budgeted FTE's + 3 granted funded FTE's). During this reporting period, an equivalent of 6 FTE's contributed to casework productivity. The DNA Technical Leader performed duties other than casework during this reporting period. One FS was on maternity leave as well. The forensic casework productivity statistics for the entire Biology section, during the fourth and fifth quarters (July 14, to Dec. 31, 2011):

Number of Biology cases analyzed – 274

Number of Biology items analyzed – 1044

Number of DNA cases analyzed – 268

Number of DNA samples analyzed – 1003

Number of Biology items submitted for analysis – 1021

Number of DNA items submitted for analysis – 1031

Objective 3: Reduce backlogged DNA casework primarily for UCR part 1 crimes.

This objective has been achieved to date and is a work in progress. The statistics listed below represent the progress made in this reporting period and comparisons to previous years. A final analysis of the statistics will be made for the entire grant period in the final report. The forensic casework productivity statistics during the fourth and fifth quarters (July 14, to Dec. 31, 2011):

Total backlog of DNA samples at the beginning of the grant period (Oct. 1, 2010) – 472

Total backlog of DNA samples on December 31, 2011 – 272

Total backlog of UCR part 1 violent crime DNA samples on Dec. 31, 2011 – 78

Total backlog of UCR part 1 burglary DNA samples on Dec 31, 2011 – 76

Total backlog of DNA samples at the end of the grant period – pending

Average turn-around-time (TAT) of DNA samples at beginning of grant period – 87 days

Average TAT of DNA samples on December 31, 2011 – 46 days

Average TAT of DNA samples at the end of grant period – pending

Decrease in TAT (Oct. 1, 2010 average TAT minus Dec. 31, 2011 average TAT) – 41 days

Average number of DNA samples analyzed/analyst at beginning of the grant period – 32

Average number of DNA samples analyzed/analyst for the fourth and fifth quarters – 28

Average number of DNA samples analyzed/analyst at the end of the grant period – pending

Increase DNA throughput for the lab (additional DNA samples analyzed per analyst) – pending

Total number of DNA samples analyzed for the year 2008 – 1791

Total number of DNA samples analyzed for the year 2009 – 1843

Total number of DNA samples analyzed for the year 2010 – 2146

Total number of DNA samples analyzed for the year 2011 – 2129

Total number of DNA profiles entered into CODIS in 2007 – 296

Total number of DNA profiles entered into CODIS in 2008 – 392

Total number of DNA profiles entered into CODIS in 2009 – 408

Total number of DNA profiles entered into CODIS in 2010 – 360

Total number of DNA profiles entered into CODIS in 2011 – 367

Total number of DNA hits from CODIS in 2007 – 98

Total number of DNA hits from CODIS in 2008 – 101

Total number of DNA hits from CODIS in 2009 – 103

Total number of DNA hits from CODIS in 2010 – 130

Total number of DNA hits from CODIS in 2011 – 67

Summary: The biology processing and DNA item backlogs and turnaround times are declining. The DNA backlog has decreased from 472 items on October 1, 2010 to 272 items on December 31, 2011. The biology processing backlog has decreased from 4797 items on October 1, 2010 to 1402 items on December 31, 2011. The DNA turnaround time has decreased from 87 days on October 1, 2010 to 46 days for the year ending on December 31, 2011. The output capacity for DNA analyses has remained constant over the past two years; however, the impact of the three grant funded FS represents 47 percent of the biology items examined and 46 percent of the DNA samples analyzed. A total of 2146 DNA samples were analyzed in 2010 while 2129 DNA samples were analyzed in 2011.

FINAL REPORT

The (FY2010) Forensic DNA Backlog Reduction Program grant was officially awarded to the Johnson County Sheriff's Office Criminalistics Laboratory on September 16, 2010. No progress was made on this grant in the first, second, and third quarters due to the open (FY2009) Forensic DNA Backlog Reduction Program grant. The (FY2009) grant was completed on July 13, 2011 and work towards accomplishing the goals for this grant commenced shortly thereafter. There were no equipment purchases or outsourced casework analyses to be performed under this grant. On May 26, 2011, the Program Manager approved a change of scope GAN to use the awarded funds to pay the salary and benefits for three Forensic Scientists instead of two Forensic Scientists. This change would decrease the term of the award period to approximately 32 weeks. The funding for this grant was expended on March 17, 2012.

Objective 1: Dedicate personnel for biological screening and DNA analysis.

This objective has been achieved as a continuation of previous NIJ DNA Backlog Reduction grant awards. The three grant funded FS positions have been previously trained; proficiency tested, and authorized to perform casework examinations in biology processing and DNA analysis. Generally, any given case is assigned to one FS who works the case from start to finish (biology processing and DNA analysis). In the Biology section, case analyses are tracked as two separate examinations. First, the evidence will be examined for biological evidence and will be statistically tracked as (1) biology case with (x) items analyzed. If biological material is indicated or identified, the evidence will be examined for DNA. The DNA examination of that same case will be statistically tracked as (1) DNA case with (x) DNA samples analyzed. The forensic casework productivity statistics for all three grant funded FS position during the entire active period of this award (July 2011 to March 2012) are listed below:

Number of Biology cases analyzed – 166 DNA profiles entered into CODIS – 103

Number of Biology items analyzed – 643 Number of CODIS hits – 18

Number of DNA cases analyzed – 160

Number of DNA samples analyzed – 662

Objective 2: Increase analysis of biological evidence on violent crimes and burglaries.

This objective has been achieved. Priority analysis is given to UCR part 1 violent crimes and burglaries. As of March 27, 2012, the DNA item backlog consisted of 57 items (22%) from UCR part 1 person's crimes, 75 items (29%) from burglaries, and 128 items (49%) from other

crimes such as theft, auto theft, and CDP. The forensic casework productivity statistics for the entire Biology section, during the active period (July 2011 to March 2012) are listed below:

Number of Biology cases analyzed – 372

Number of Biology items analyzed – 1412

Number of DNA cases analyzed – 384

Number of DNA samples analyzed – 1457

DNA profiles entered into CODIS – 276

Number of CODIS hits – 64

Number of Biology items submitted for analysis – 1488

Number of DNA items submitted for analysis – 1461

Objective 3: Reduce backlogged DNA casework primarily for UCR part 1 crimes.

This objective has been achieved. The statistics listed below represent the progress made during the active period of this grant (July 2011 to March 2012):

Total backlog of DNA samples at the beginning of the grant period (Oct. 1, 2010) – 472

Total backlog of DNA samples on March 27, 2012 – 260

Total backlog of UCR part 1 violent crime DNA samples on March 27, 2012 – 57

Total backlog of UCR part 1 burglary DNA samples on March 27, 2012 – 75

Total backlog of DNA samples at the end of the grant period – 260

Average turn-around-time (TAT) of DNA samples at beginning of grant period – 87 days

Average TAT of DNA samples on March 31, 2012 – 43 days

Decrease in TAT (Oct. 1, 2010 average TAT minus March, 2012 average TAT) – 44 days

Average number of DNA samples analyzed/analyst at beginning of the grant period – 32

Average number of DNA samples analyzed/analyst at the end of the grant period – 25

Total number of DNA samples analyzed for the year 2008 – 1791

Total number of DNA samples analyzed for the year 2009 – 1843

Total number of DNA samples analyzed for the year 2010 – 2146

Total number of DNA samples analyzed for the year 2011 – 2129

Total number of DNA profiles entered into CODIS in 2007 – 296

Total number of DNA profiles entered into CODIS in 2008 – 392

Total number of DNA profiles entered into CODIS in 2009 – 408

Total number of DNA profiles entered into CODIS in 2010 – 360

Total number of DNA profiles entered into CODIS in 2011 – 367

Total number of DNA hits from CODIS in 2007 – 98

Total number of DNA hits from CODIS in 2008 – 101

Total number of DNA hits from CODIS in 2009 – 103

Total number of DNA hits from CODIS in 2010 – 130

Total number of DNA hits from CODIS in 2011 – 67

Summary: There are seven FS positions assigned to the Biology section (4 budgeted FTE's + 3 granted funded FTE's). During the entire active period for this award, an equivalent of 6 FTE's contributed to casework productivity. The DNA Technical Leader performed duties other than casework during this reporting period. One FS was on maternity leave as well.

The biology processing and DNA item backlogs and turnaround times are declining. The DNA backlog has decreased from 472 items on October 1, 2010 to 260 items on March 27, 2012. The biology processing backlog has decreased from 4797 items on October 1, 2010 to 1311 items on March 27, 2012. The DNA turnaround time has decreased from 87 days on October 1, 2010 to 43 days for the year ending on March 31, 2012. The output capacity for DNA analyses has

remained relatively constant over the past two years; however, the three grant funded FS positions represent 46 percent of the biology items examined and 45 percent of the DNA samples analyzed over the award period.

An interesting shift in CODIS data was observed in 2011. Even though more DNA profiles were entered into CODIS in 2011 when compared to 2010 data, there were significantly fewer CODIS hits. After reviewing case data and the offense types examined, it was discovered that the number of property crime cases that received DNA analysis in 2011 decreased by approximately 50%. In 2010, approximately 36% of cases having DNA analysis performed were property crimes. In 2011, only 18% of the DNA cases analyzed were property crimes. Based on this information alone, it appears that DNA profiles obtained from property crime cases may yield more CODIS hits.

The statistics generated for the month of March 2012, was reduced significantly due to preparations for a move into a new crime laboratory. The move of the crime laboratory took place during the week of April 2, 2012. The new address for the Johnson County Sheriff's Office Criminalistics Laboratory is 11890 S. Sunset Drive, Olathe, Kansas 66061-2792.

FY10 Recipient Name: Kansas Bureau of Investigation

Award Number: 2010-DN-BX-K172

Award Amount: \$386,672

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Project Goal: The project's goal is to add capacity through increased efficiency of the number of DNA cases worked.

Project Objectives and Performance Indicators:

Measurable Objectives: The Section will monitor the number of cases processed each quarter.

Indicators: Performance measures/indicators will be casework throughput and the number of cases worked each quarter.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Three (3) small footprint robots have been bought from Applied Bio-systems. Through comparison studies, the chemistry used by AB is more efficient in extracting DNA than the chemistry from Promega.

AB has had some problems with the consumables and so no testing has been done with the robots. It is anticipated that within the next month the validation will start and then by the end of March, the KBI laboratories will be using the Automates for casework.

The KBI laboratory has seen the loss of two DNA scientists. One in early August and the other had resigned in the first part of the 2010 year. Late December, a scientist was promoted to supervisor. So, in effect, the laboratory is down three full time DNA scientists. This has resulted in an increase of the turn around time for cases and a drop in the number of samples per examiner. There has been a significant drop in the number of cases backlogged. This is due in part to the new tracking method and to a change in the management of cases when they are submitted without the necessary reference samples they have been kept outside the backlog of cases.

CODIS servers have been purchased but there is a delay in installing them as we wait for the SAIC group to schedule the installation.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The KBI now has five (5) small footprint robots have been bought from Applied BioSystems. Through comparison studies, the chemistry used by AB is more efficient in extracting DNA than the chemistry from Promega.

AB has had some problems with the consumables and so limited testing has been done with the robots. The new chemistry has been received in Mid-July and the Great Bend Laboratory is in the process of validating the automates.

The KBI laboratory has seen the loss of four DNA scientists. One in early August and the other had resigned in the first part of the 2010 year and there were two more scientists who resigned late Spring/early summer. Late December, a scientist was promoted to supervisor. So, in effect, the laboratory is down five full time DNA scientists. This has resulted in an increase of the turn around time for cases and a drop in the number of samples per examiner. There has been a significant drop in the number of cases backlogged. This is due in part to the new tracking method and to a change in the management of cases when they are submitted without the necessary reference samples they have been kept outside the backlog of cases.

CODIS servers have been purchased and have been installed in the KC lab. There has been a delay in installing them in the Great Bend Lab as we wait for the SAIC group to schedule the installation.

The Kansas Bureau of Investigation has sub-contracted with Sedgwick County Forensic Science Center for renovations and a computer and software for GMIDX. Through conversations with the DNA Technical Leader, I am aware that the renovations are on-going with no request yet for the funding. The computer/software has been submitted to the county IT group and is pending their approval.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The KBI has validated the small footprint robots and is in the process of training the 8 DNA scientists on the Automates. As noted in the previous report, this process had been delayed due to manufacturer's issues with some contamination of the plastics.

The KBI Laboratory has recently interviewed and is in the process of hiring six (6) scientists. Turn-around times are slightly higher overall. The Screening portion results in a reprot in approximately 172 days for a turn-around, but due to the number of DNA analysts being down (only 5 full time analysts) the DNA backlog is at 498 days. This results in an overall turn-around time of 236 days. Backlogs have suffered for the lack of qualified personnel in DNA with a DNA backlog of 392 cases but due to the three newest scientists screening cases the backlog had decrease for screening which has then resulted in an overall drop of the number of cases currently backlogged. The three (3) analysts who have been with the KBI for approximately one year are in DNA training and it is hoped that by the end of April will be authorized to do DNA. The Kansas Bureau of Investigation has subcontracted with Sedgwick County Forensic Science Center for renovation and a computer and software for GMIDX. The Lab Director for Sedgwick County is aware the money is there and to the best of my knowledge is waiting for the county IT group to approve the purchase.

The CODIS server and clients for the Great Bend Laboratory are fully installed and functional. In the next month, the final purchases of equipment will be made. This will include another two

automates and two 3130 instruments.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The project goal was to add capacity through increased efficiency of the number of DNA cases worked. The grant provided funding for purchases on the extraction robots and the necessary chemistries to validate them, the purchase of genetic analyzers and CODIS server and clients. The additions through this grant of the small footprint extraction robots will allow the analysts to extract samples in a more timely fashion and with less hands-on time. The KBI has validated the small footprint robots and has successfully trained two of the eight DNA scientists on the Automates with Identifiler Plus chemistry. Three (3) other scientists have started their training and scheduled to take a competency within the next month.

The KBI Laboratory has recently hired six (6) scientists. Two of the scientists are currently doing screening cases under direction.

Also, the grant allowed the purchase of additional 3130 genetic analyzers. With more equipment available, less time is wasted in coordinating the efforts of the scientists. Thus more cases can be worked in a timely fashion. Purchases of two 3130s have been completed. The 3130 in the Topeka Laboratory has been validated for the new chemistry (IdentifilerPlus™). The new 3130 in Great Bend will be validated with the work done by the newest scientist and should start in September or October at the latest. This will allow one 3130 to still be used without any delays by the casework scientists.

The grant also provided money for a new server and client computers for CODIS. These have been purchased and allow the CODIS administrator and alternate to work more efficiently at their desks as opposed to a single computer for all the analysts. While not directly influencing case output, by allowing fewer interruptions in a work flow, this does make the overall process more streamlined.

Indicators: Turn-around times are slightly lower overall. The screening portion results in a report in approximately 148 days for a turn-around, but due to the number of DNA analysts being down (only 5 full time analysts) the DNA backlog is at 326 days. This results in an overall turn-around time of 223 days. Backlogs continue to suffer for the lack of qualified personnel in DNA with a DNA backlog of 357 cases but due to the three newest scientists screening cases the backlog had decrease for screening which has then resulted in an overall drop of the number of cases currently backlogged. The three (3) analysts who have been with the KBI for approximately one year are in DNA training and it is hoped that by the end of August will be authorized to do DNA.

The Kansas Bureau of Investigation has subcontracted with Sedgwick County Forensic Science Center for renovation and a computer and software for GMIDX. The Lab Director for Sedgwick County is aware the money is there and to the best of my knowledge is waiting for the county IT group to approve the purchase. There has been no word from them as to the use of the money involved here. Therefore, no activity has occurred in the reporting period January 1, 2012 to June 30, 2012.

The CODIS server and clients for the Great Bend Laboratory are fully installed and functional as noted in the last progress report.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

The Kansas Bureau of Investigation has completed all aspects of their commitments to the FY2010 case work grant. The time period extension was granted for the opportunity to get the

sub-contracted portion completed. This sub-contract is with the Sedgwick County Forensic Science Center.

An update from the Sedgwick County Forensic Science Center was given to me and consisted of the following information.

The lab re-model design is completed. The cabinets have been received and were installed the week of December 14, 2012. There is some current work being done on the electrical and the HVAC hook up. Once that is completed the computers will be installed and the work then completed.

As of the middle of January, none of the invoices have been submitted to our financial officer. She is in the process of contact them.

PROGRESS REPORT 6 / FINAL REPORT: January 1, 2013 – June 30, 2013

The project goal was to add capacity through increased efficiency of the number of DNA cases worked. The grant provided funding for purchases on the extraction robots and the necessary chemistries to validate them, the purchase of genetic analyzers and CODIS server and clients. The additions through this grant of the small footprint extraction robots will allow the analysts to extract samples in a more timely fashion and with less hands-on time. The KBI has validated the small footprint robots and has successfully trained all of the eight DNA scientists on the Automates with Identifiler Plus chemistry. We have since lost one scientist and added the middle of June another DNA scientist to maintain the eight DNA scientists currently on staff with four scientist in DNA training and three scientists trained to screen cases and will be starting DNA training shortly.

Also, the grant allowed the purchase of additional 3130 genetic analyzers. With more equipment available, less time is wasted in coordinating the efforts of the scientists. Thus more cases can be worked in a timely fashion. Purchases of two 3130s have been completed. The 3130 in the Topeka Laboratory has been validated for the new chemistry (IdentifilerPlus™). The new 3130 in Great Bend will be validated with the work done by the newest scientist and should start in September or October at the latest. This allows one 3130 to still be used without any delays by the casework scientists.

The grant also provided money for a new server and client computers for CODIS. These have been purchased and allow the CODIS administrator and alternate to work more efficiently at their desks as opposed to a single computer for all the analysts. While not directly influencing case output, by allowing fewer interruptions in a work flow, this does make the overall process more streamlined.

Indicators: Turn-around times are slightly lower overall but have increased a bit due to the bottle neck of cases awaiting DNA due to fewer DNA scientists than what we have scientists screening the cases. The screening portion results in a report in approximately 224 days for a turn-around, but due to the number of DNA analysts being down (only 5 full time analysts) the DNA backlog is at 354 days. This results in an overall turn-around time of 279 days. Backlogs continue to suffer for the lack of qualified personnel in DNA with a DNA backlog of 534 cases but due to the four newer scientists screening cases the backlog had decrease for screening which has then resulted in an overall drop of the number of cases currently backlogged.

The Kansas Bureau of Investigation has subcontracted with Sedgwick County Forensic Science Center for renovation and a computer and software for GMIDX. The Sedgwick County Forensic Science Center has utilized their funding and actually came in slightly under budget.

The CODIS server and clients for the Great Bend Laboratory are fully installed and functional as noted in the last progress report.

Challenges: Challenges continue to be getting scientists trained while continuing to meet the needs of our customers. Some of the turn around numbers are negatively impacted by cold cases that have been requested for analysis. The nature of those cases involves a significant analysts time for the samples types and will usually require delays as other evidence is found and submitted. The Great Bend Laboratory and the Kansas City Laboratory have both backlog numbers and turn around time numbers significantly lower than the Topeka Laboratory. The two labs show a very positive impact the new instrumentation for extraction and analysis have had. Topeka's Laboratory has the highest number of cases submitted and has been working with only 1.5 scientists in DNA and have had 4 scientists in DNA training and 3 in screening training. The negative impact this has had despite the new instrumentation brought on line is obvious. Currently, with another two analysts in the Topeka laboratory that can do DNA testing that will improve the overall backlog and turn around times.

FY10 Recipient Name: Commonwealth of Kentucky

Award Number: 2010-DN-BX-K118

Award Amount: \$585,500

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To implement high throughput technologies.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Goal 3: To purchase reagents utilized in DNA analysis.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

No funds have currently been utilized from this award. Other laboratories utilizing robotics in their case working sections are currently being contacted to help determine which type of system(s) would best serve our laboratory. We are also investigating services offered for validations of the system(s) selected.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: Contact has been made with other laboratories that are currently utilizing high throughput technologies. These discussions have revolved around what high throughput systems these laboratories ultimately decided to implement and the pitfalls they encountered. We have also made contact with vendor(s) to discuss services and options available for validation of the system(s) that will ultimately be purchased with award funds.

Goal 2: OT funds have begun to be utilized from the award. To date ~ \$46,000 has been paid in OT wages. With the increase in time dedicated to working cases, more forensic samples are being processed which will in turn lead to more samples uploaded to CODIS and a decrease in the backlog.

Goal 3: Currently, no reagents have been purchased utilizing funds from this award. This is primarily due to remaining funds in our 09 awards that are also designated for similar reagents. Many of the reagents used have short shelf lives which prevent long term storage.

Goal 4: No training has been attended, due to meetings not yet occurring. Meetings scheduled to attend include: AAFS, MAFS, SAFS, MAAFS, NEAFS, AAFDA, BODE, and Promega. As these meetings approach analysts will attend for training.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: To implement high throughput technologies.

Progress: An attempt was made, via a GAN to sole source purchase multiple robotic workstations utilizing the award funds. That GAN was denied based on the reality of multiple vendors existing that manufacture these workstations. Based on this a RFB is being drafted. This will solicit bids for both robotic workstations and validation services. This will aid in expediting these workstations being placed into use for casework samples. This GAN is currently being drafted.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Progress: OT funds have begun to be utilized from the award. To date ~ \$115,070.00 has been paid in OT wages. With the increase in time dedicated to working cases, more forensic samples are being processed which will in turn lead to more samples uploaded to CODIS and a decrease in the backlog.

Goal 3: To purchase reagents utilized in DNA analysis.

Progress: Currently, no reagents have been purchased utilizing funds from this award. This is primarily due to remaining funds in our 09 awards that are also designated for similar reagents. Many of the reagents used have short shelf lives which prevent long term storage.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

Progress: To date 4 analysts have attended training at the Promega conference, costing ~ \$3,427.00. Little training has been attended, due to many meetings not yet occurring. As these meetings approach analysts will attend for training. We have also begun to investigate the possibility of conducting an in-house training session on likelihood ratio statistics as applied to DNA mixtures. This GAN is in the process of being drafted.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: To implement high throughput technologies.

Progress: An RFB has been drafted and was submitted via Commonwealth procedures. Two bids for robotic workstations and validation services were received. However, due to the lengthy award process the contract has yet to be awarded. This has resulted in no money from this category being expended during this reporting period.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Progress: OT funds continue to be utilized from this award. \$124,838.75 has been paid in OT wages. OT funds for this award were completed 01-14-12. With the increase in time dedicated to working cases, more forensic samples were processed which in turn lead to more samples

uploaded to CODIS and a decrease in the backlog.

Goal 3: To purchase reagents utilized in DNA analysis.

Progress: Currently, \$23,078.24 has been utilized to purchase reagents from this award. These reagents include Quantitation and Amplification kits. As progress continues in the award process for robotic workstations the remaining funds allocated for reagents will be purchased to be used for the validation procedures required to implement the newly purchased robotic workstations. Efforts are made to purchase supplies for cases from the same award in which overtime is used. In an event where this is not possible, and OT and supplies cross awards the metrics for those cases are only counted once per award. These metrics are kept in the excel spreadsheet that is utilized to track case/supplies/OT metrics.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

Progress: During this reporting period \$642.84 has been utilized for travel to the American Academy of Forensic Sciences. Approval was received to conduct an in-house training session on likelihood ratio statistics as they apply to DNA mixtures. Quotes were received from NFSTC and a request was submitted via Commonwealth of Kentucky procedures. Currently, this request is still under review due to issues regarding establishing a PSC (personal service contract) with NFSTC. These issues are being addressed with the goal to reaching a resolution soon.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: To implement high throughput technologies.

Progress: An RFB has been drafted and was submitted via Commonwealth procedures. Two bids for robotic workstations and validation services were received. However, due to the lengthy award process the contract has yet to be awarded. This has resulted in no money from this category being expended during this reporting period. After discussion with NIJ manager, it was recommended that quotes be solicited for validation of instruments. Progress is being made on receiving quotes from vendors in regards to validation for the instruments. Quotes were received in regards to QIAGEN EZ1 with a second quote being submitted by GSS. This instrument is in the process of being approved for purchase via Commonwealth financial procedures.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Progress: OT funds for this award were completed 01-14-12. \$124,838.75 has been paid in OT wages.

Goal 3: To purchase reagents utilized in DNA analysis.

Progress: Currently, \$23,078.24 has been utilized to purchase reagents from this award. These reagents include Quantification and Amplification kits. As progress continues in the award process for robotic workstations the remaining funds allocated for reagents will be purchased to be used for the validation procedures required to implement the newly purchased robotic workstations. Efforts are made to purchase supplies for cases from the same award in which overtime is used. In an event where this is not possible, and OT and supplies cross awards the metrics for those cases are only counted once across all awards. These metrics are kept in the excel spreadsheet that is utilized to track case/supplies/OT metrics. Due to goal 1 (purchase of robotic instrumentation) still being in process, no progress has been made in relation to goal 3. This is due to the remaining funds for supplies being designated for the purchase of validation supplies. As soon as instruments are purchased the remaining funds in the equipment and supplies category will be spent for validation consumables and supplies.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

Progress: During this reporting period \$0.00 has been utilized for travel. Approval was received to conduct an in-house training session on likelihood ratio statistics as they apply to DNA mixtures. Quotes were received from NFSTC and a request was submitted via Commonwealth of Kentucky procedures. This request is still under review due to issues regarding establishing a PSC (personal service contract) with NFSTC. These issues are being addressed with the goal to reaching a resolution soon.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1: To implement high throughput technologies.

Progress: The approval was granted to purchase a micro shaking incubator/rotating heat block. This resulted in \$2,249.90 being allocated from the equipment category during this reporting period. The contract to purchase two QIAcube instruments was accepted and awarded. This resulted in \$30,634.10 being allocated from the equipment category during this reporting period. After discussion with NIJ manager, it was recommended that quotes be solicited for validation of instruments. Quotes were received in regards to validation of instruments. However, once these quotes were submitted to the office of Commonwealth Finance, the quotes were rejected due to all validation being included into one solicitation. This RFB has since been broken down into smaller components and is currently open for bids. As soon as bidding is closed the solicitation will be awarded as soon as possible. An RFB was issued regarding mixture interpretation software. Only one bid was received from Niche Vision. The quoted amount was much higher than the allotted amount (allotted amount = \$28,000: Quoted amount after solicitation = \$46,000). Due to this sufficient funds were not allotted to process this purchase. Steps are being taken to attempt to resolve this discrepancy.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Progress: OT funds for this award were completed 01-14-12. \$124,838.75 has been paid in OT wages.

Goal 3: To purchase reagents utilized in DNA analysis.

Progress: Currently, \$4,965.12 has been utilized to purchase reagents from this award. These reagents include Quantification and Amplification kits. As progress continues in the award process for validations the remaining funds allocated for reagents will be purchased to be used for the validation procedures required to implement the newly purchased instruments. Efforts are made to purchase supplies for cases from the same award in which overtime is used. In an event where this is not possible, and OT and supplies cross awards the metrics for those cases are only counted once across all awards. These metrics are kept in the excel spreadsheet that is utilized to track case/supplies/OT metrics. As soon as the remaining validation services are approved the remaining funds in the equipment and supplies category will be spent for validation consumables and supplies.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

Progress: During this reporting period \$0.00 has been utilized for travel/training. Training was conducted in-house on likelihood ratio statistics as they apply to DNA mixtures (Allocated \$9,289.81). NFSTC conducted the training which included 16 analysts. Payment has yet to be

remitted, resulting in no funds being utilized during this reporting period for the other cost category.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1: To implement high throughput technologies.

Progress: During this reporting period multiple purchases were conducted to aid in increasing high throughput technologies. Two QIAcube instruments in the total amount of \$30,634.10 were purchased. The validation for the QIAcube instruments for the total amount of \$27,960.00. An RFB was issued regarding mixture interpretation software and was awarded to Niche Vision (Armed Expert) in the amount of \$46,000. Two copies of GMID-X were purchased, in the total amount of \$16,000. Three thermo mixers were purchased, for the total amount of \$4,523.97. One, power supply was purchased to provide power support for the 3130 in the amount of \$3,300.00. 1,420 additional convicted offender kits were purchased for a total price of \$7,497.40. Additional chairs/stools were purchased that will be utilized by DNA analysts in newly repurposed space for a total price of \$7,162.00. During this reporting period a total of \$143,077.50 was utilized to assist in meeting the goal of implementing high throughput technologies.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Progress: OT funds for this award were completed 01-14-12. \$124,838.75 has been paid in OT wages.

Goal 3: To purchase reagents utilized in DNA analysis.

Progress: The total amount of funds to purchase reagents utilized in DNA analysis were completed during the previous reporting period. The total amount utilized to meet this goal was \$ 49,638.04.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

Progress: During this reporting period \$9,289.81 has been utilized for travel/training. Training was conducted in-house on likelihood ratio statistics as they apply to DNA mixtures (Allocated \$9,289.81). NFSTC conducted the training which included 16 analysts. Payment has been remitted, resulting in the completion of the goal to provide discipline specific training.

FINAL REPORT:

Goal 1: To implement high throughput technologies.

Progress: In the closing of this award multiple purchases for robotic workstations spanning the equipment (~\$247,000), other (~\$31,000.00), and consultant (~\$122,000.00) categories have been accomplished. These funds have resulted in the purchase and validation of three EZ1 advanced XL extraction workstations (\$145,228.86), two QIagility Liquid handling workstations (\$101,466.20), and two QIAcube workstations (\$30,634.10). As these instruments are implemented into the case work flow massive improvements in productivity are expected. These instruments will be responsible for handling the tedious steps of DNA extraction, freeing the analyst to focus on interpreting data and generating reports. DNA mixture interpretation software (\$46,000) has also been purchased with the goal of assisting the DNA analyst in interpreting DNA mixtures. The Armed Xpert software is anticipated to also increase the efficiency of the DNA analysts. Additional items purchased due to these funds include three thermal mixers required for DNA extraction (\$4,523.97), one power supply to provide electrical

backup (\$3,300) for the high efficiency 3130 instrument utilized to process DNA samples, and two additional copies of GMID-X (\$16,000) was purchased to increase the number of workstations available for analysts to interpret data. In total ~\$400,000.00 was allocated to implement high throughput technologies for the laboratory.

Goal 2: To ensure over time (OT) is available to analysts, to increase the amount of time possible to process forensic casework samples.

Progress: OT funds for this award were completed 01-14-12. \$124,838.75 was utilized in OT wages. These funds allowed for analysts to allocate additional time to process DNA cases. Due to the addition of OT hours, 804 cases were processed, 287 profiles were entered into CODIS, and 68 CODIS hits are attributed to cases worked utilizing these award funds. Without access to overtime, the metrics in all categories would be greatly reduced.

Goal 3: To purchase reagents utilized in DNA analysis.

Progress: The total amount of funds to purchase reagents utilized in DNA analysis were completed during the reporting period 6 (01-01-13 – 06-30-13). The total amount utilized to meet this goal was \$ 49,638.04. These purchases include amplification kits, quantitation kits, arrays, 310 POP4, 3130 POP4, buffer, capillaries, and multiple other items required to complete DNA analysis. Without access to funds that allowed for the purchase of these items, case metrics would be greatly diminished.

Goal 4: Provide discipline specific training to Forensic Biologists in order to retain highly qualified analysts.

Progress: Utilizing funds from this award in-house training was conducted by the National Forensic Science Technology Center (NFSTC). This training focused primarily on likelihood ratio statistics as they apply to DNA mixtures (\$9,289.81). 16 analysts were in attendance for the duration of the training. By utilizing this approach, each analyst was able to spend one on one time with the instructor regarding calculations. This small class size also allowed for the class instruction to be “tailored” to instances that occur in our laboratory on a routine basis. This training has proven to be beneficial as the laboratory continues to increase analyst’s responsibilities as they relate to ratio statistics.

FY10 Recipient Name: Louisiana State Police

Award Number: 2010-DN-BX-K099

Award Amount: \$1,340,084

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goals of this project are to reduce the forensic DNA case/sample turnaround time, increase throughput of current public DNA laboratories, and reduce forensic DNA backlogged cases. The laboratories in Louisiana intend to reach the desired goals by streamlining their operations, incorporating new methods and technologies to work more efficiently, providing continuing education and outsourcing a percentage of backlogged cases. The following information addresses what progress has occurred with the 2009 Forensic DNA Backlog Reduction Program grant. It includes data collected from each Subgrantee; Acadiana Criminalistics Laboratory (ACL), Jefferson Parish Sherriff’s Office – Regional DNA Laboratory (JPSORDL), North Louisiana Crime Laboratory (NLCL), Southwest Louisiana Crime Laboratory (SWCL), and St. Tammany Parish Coroner’s Office (STPCO).

The Acadiana Crime Laboratory identified the need for overtime to be provided to current staff, the lack of training of laboratory personnel has also been a concern. The lack of service agreements on the new and old in-house equipment is also an issue facing this lab. Outsourcing will remain to play a role in decreasing their backlog. This is why their objectives include:

- Provide overtime to current staff,
- Provide travel and training for several conferences or seminars,
- The implementation of Service contracts with ABI and Qiagen, and
- The finally the outsourcing of approximately 84 backlogged cases.

The Jefferson Parish Sherriff's Office – Regional DNA Laboratory: has been able to increase their laboratory size by a dramatic amount. Due to space no longer being a factor JPSORDL has decided to:

- Increase the laboratory equipment to reduce turnaround time in casework reporting, and
- Increase laboratory storage for samples and kits.

The Louisiana State Police Crime Lab: identified the need for overtime to be provided to current staff and the training of laboratory personnel has also been a concern. New equipment and validation services have also been requested. LSPCL is focusing on;

- Funding will be to provide travel and training for several conferences or seminars,
- To provide overtime to current staff, and
- Increase the laboratory equipment to reduce turnaround time in casework reporting,

The North Louisiana Crime Lab expressed their objectives as equipment and supply issues, so they decided to spend their award portion in a couple of ways;

- To allocate funds towards the purchase of new updated equipment,
- The use a portion of funding towards the purchase of laboratory supplies, and
- The remaining funds will be used for analyst travel and training.

Southwest Criminalistics Laboratory expressed their objectives as equipment and equipment validations. Funds have been allocated towards;

- The purchase of new equipment; and
- Completing equipment validations.

St. Tammany Parish Coroner's Office expressed their objectives as equipment and validations of equipment, so they decided to spend their award portion by;

- Funds have been allocated towards the purchase of new equipment, and
- Completing new equipment validations.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- This grant was awarded on October 1, 2010. We have been focusing our efforts in making all previous grant purchases before we work forward in the grant process. Contracts are being drawn up and projections are being made on how and when to spend this money but the main focus has been clearing out the older awards and preparing to have all the special conditions released in preparation of spending. One Sole Source request has been submitted and approved for ABI on behalf of the all State labs. Budget modifications will be coming in the near future. On December 6-9, 2010, LSPCL and sub-grantee's had the Grant Progress Assessment that was performed by the NFSTC. On January 3, 2010 the GPA was released with no findings.

The Acadiana Crime Laboratory

- Signed IA agreement with LSPCL

The Jefferson Parish Sherriff's Office

- Signed IA agreement with LSPCL
- Begun to put together a budget modification requesting changes throughout.

The Louisiana State Police Crime Lab

- LSPCL has not started on this award.

The North Louisiana Crime Lab

- Signed IA agreement with LSPCL has been completed but any further modifications are not started on this award.

Southwest Criminalistics Laboratory

- Signed IA agreement with LSPCL has been completed but any further modifications are not started on this award.

St. Tammany Parish Coroner's Office

- Signed IA agreement with LSPCL has been completed but any further modifications are not started on this award, discussions and projections of budget spending are being drafted.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Since this grant has been awarded there have been 3 requests for budget modifications submitted as each looks at their budgets more closely new needs arise. The process of the purchasing has begun for everyone.
- All Labs are currently in process of completely the spending on the 2009 DNA Backlog award. Once it is near completion we will ask for the special conditions to be released for withholding of funds.

The Acadiana Crime Laboratory

- Begun working the requested overtime. There has been approximately 93 hours of overtime worked for a cost of \$4,012.00. These will be drawn down in the reporting cycle.
- Set up service contracts that allow them to cover the QIAcube's and AB 310's for this grant.

The Jefferson Parish Sherriff's Office

- Drafted and requested a budget modification that NIJ has approved thereby opening the ability for this lab to begin spending.
- Requested, purchased and invoiced for several of their new budget items such as:
 - o 3 Steroscopes,
 - o Invitogen Cell Counter,
 - o 3 Eppendorf vacufuges,
 - o 3 Ultralite ALS systems
 - o 8 UV crosslinkers.
- Some small purchases like the Canon Camera's & software have also been purchase. Each of these items have been approved and is in line for draw down.
- Also note *** Please report our metrics as no change from last quarter. While I am showing a dip in overall productivity I have had one analyst out for maternity leave for this period, thus the dip is not due to a backlog increase at this time.*

The Louisiana State Police Crime Lab

- LSPCL has not started spending on this award but in underway is drafting budget modifications.

The North Louisiana Crime Lab

- Has been focusing and depleting their 2009 award and has recently submitted a 2010 DNA grant budget modification.

Southwest Criminalistics Laboratory

- SWCL has fully completed spending on their 2009 award and has reviewed and recently submitted a 2010 DNA grant budget modification.

St. Tammany Parish Coroner's Office

- The initial budget modification has been submitted and approved. STPCO has begun their spending since the approval of the budget adjustment and the balance of the Milli-Q Integral 3 Water Purification System has been invoiced.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- During this reporting cycle there have been 6 additional budget modifications have been submitted and approved for the different labs that are participating in this award.
- A sole source GAN was required after a budget modification that was requested by the LSPCL had been approved. The cost of Collector kits reached over the \$100,000.00 level thereby requiring the lab to complete the Sole Source GAN.
- Spending on this grant is progressing but after some projections and future planning it was decided that a date extension be requested. This allowed us to move the award end date to September 30, 2012.

The Acadiana Crime Laboratory

- ACL is currently working overtime as the man power allows, in this reporting period they worked an additional \$2,449.57 of overtime dollars.
- During the previous cycle ACL set into place the service agreement contracts. For their instrumentation. It wasn't until this reporting cycle that these contracts were paid and reimbursements made. These contracts equaled a combined total of \$39,354.38 worth of protection and safety. Having these contracts will decrease the analytical down time if an issue should occur.
- ACL has begun to prepare cases for outsourcing to further improve their current backlog state.

The Jefferson Parish Sherriff's Office

- During this reporting cycle the lab has made several new purchases. One of the most influential purchases and corresponding validations was that of the QIASymphony instrument. There were other capacity building purchases of additional vacufuges, stereoscopes, and Docutemp sensors that were also completed during this cycle. This increase in the labs capacity will systematically help with decreasing backlogged cases.
- The rising backlog consists of 50% non-violent property crime offenses and the validation of our QIASymphony SP/AS for use in these cases is about one-third of the way done. The validation is for bloodstains, fabric samples contact DNA, and reference samples.
- Also the DNA lab is still transitioning to the Justice Trax LIMS and anticipates being able to issue reports via iResults by the end of the next reporting period.

The Louisiana State Police Crime Lab

- LSPCL has requested a budget modification that has allowed the current LSPCL in house forensic staff to work grant funded overtime where there were no other budgeted monies available. In the FY1112 budget- there is no state OT budgeted for 2223 or 2225s. The use of this overtime has allowed DNA to continue to press forward with the DNA process so as to continually work the current case loads. During this cycle LSPCL has spent approximately \$11,664.00 in overtime dollars.
- LSPCL DNA Staff has had the privilege of attending the Promega conference during the month of October; all travel for this has been reimbursed off this grant. Future spending is being reviewed to ensure that the most appropriate requests are being attained.

The North Louisiana Crime Lab

- In this reporting period NLCL has set into place the service agreements for AB 3130, AB 3130XL, and the AB 7000. These agreements will help to protect and maintain the instrumentation thereby decreasing the downtime of analysts.
- A budget modification was completed and approved allowing the service agreement for the AB 7000.
- NLCL also had the privilege to attend the Promega conference during the month of October; all ravel for this has been reimbursed off this award. Future spending has been reviewed and a new budget modification will be submitted to enable the needed spending.

Southwest Criminalistics Laboratory

- A budget modification was submitted to remove the purchase of a 3130 Genetic Analyzer. This allowed for the cost of the validation for the Promega Powerplex 18D and Plexor HY kits.
- SWCL has begun the process of requesting the new items but are currently waiting for approvals, items to arrive and additional space. No reimbursements have taken place yet.

St. Tammany Parish Coroner's Office

- STPCO has been preparing the RFP Specifications for the proposals of the validation work that is to be completed when the lab is relocated. This has been delayed due to construction problems in the new facility. It will be completely with in the time frame allowed.
- The previously purchased Millipore system was installed and a brief training was held for all staff.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

- During this reporting cycle there have been 3 additional budget modifications that have been submitted and approved for the different labs that are participating in this award.
- A Date Extension GAN was requested by the LSPCL and has been approved. Spending on this grant is progressing but after some projections and future planning it was decided that a date extension be requested. This allowed us to move the award end date to September 30, 2012.

The Acadiana Crime Laboratory

- ACL is currently working overtime as the man power allows, in this reporting period they worked an additional \$5,930.96 of overtime dollars.

- During this cycle ACL has completed \$165,000.00 in spending on this award and \$135,565.00 going towards the labs outsourcing project. Some of the other items purchased are the Crime-Lite with accessories, the CODIS server and software, monitors and additional QIAgen service agreement. These upgrades will help the lab further their growth and abilities to work quicker and smarter.
- Two staff members attended the Promega conference and this allowed them to pick up new skills and learn about advancements in the field.
- ACL has completed their outsourcing project for this grant and it has allowed them to further improve their current backlog state.

The Jefferson Parish Sheriff's Office

- During the last reporting cycle the lab made a most influential purchase which was that of the QIASymphony instrument. JPSO has used this reporting cycle trying to complete the validations on this instrument. The rising backlog consists of 50% non-violent property crime offenses and the validation of our QIASymphony SP/AS for use in these cases is just about done. The validation is for bloodstains, fabric samples contact DNA, and reference samples. Once this machine is released to be used on casework an increase in productivity should be clearly seen.
- Also the DNA lab is still transitioning to the Justice Trax LIMS and anticipates being able to issue reports via iResults by the end of the next reporting period.
- The only purchase for this laboratory is the purchase of the AB 9700 Real-Time Instrument. Performance checks on this instrument will begin in the next few weeks.

The Louisiana State Police Crime Lab

- In the last reporting cycle LSPCL had requested a budget modification that has allowed the current LSPCL in house forensic staff to work grant funded overtime. The use of this overtime has allowed DNA to continue to press forward with the DNA process so as to continually work the current case loads. During this cycle LSPCL has spent approximately \$32,853.72 in overtime dollars.
- During this reporting cycle LSPCL completed another budget modification allowing for the purchase of several new pieces of equipment for the CODIS DNA and Forensic DNA Staff. A large portion of these purchases have been made totaling \$46,322.46. Included in this amount are purchases for Vortexers, Thermomixers, and Centrifuges.
- LSPCL completed a GAN for Sole Source with Bode Technology due to the amount of collection kits that were purchased from this vendor. Currently, on this award a total of \$123,750.00 has been spent towards the purchase of these specific collection kits.
- LSPCL will have to complete another budget modification to account for some of the cost saving we have seen through the bulk orders of equipment and kits.

The North Louisiana Crime Lab

- In this reporting period NLCL has covered the cost of \$20,000.00 for the service maintenance agreement for the Drakontas Software that they set into place from funding on a previous grant. This will ensure that the product will continue to work as it is supposed to.

- Two budget modifications were completed and approved allowing the purchases of smaller more needed equipment and supplies; like AB Yfiler kits, Promega Power Plex kits, and Quant Kits, to work cases instead of the analyst overtime.
- NLCL also had the privilege to attend the Bode West Technical Workshop during the month of May; travel for this has been reimbursed off this award.
- During this cycle NLCL has spent \$52,812.01 from their portion of the award.

Southwest Criminalistics Laboratory

- During this reporting cycle Sorenson Forensics was able to complete the validations of the Promega Plexor HY Quant kit and Promega Powerplex 18D Direct system for a cost of \$63,000.00. Awaiting the final data and results
- SWCL has put into place the needed service agreements to cover the Qiagen EZ1 and Qiagility instrumentation as well as to cover the Lecia Microscope.
- SWCL has also purchased, installed and been reimbursed for the new CODIS server and software that was needed for the FBI upgrade.
- They also completed the purchase of another Qiagility Liquid handling robot at a cost of \$51,649.46. The performance check will soon commence on this instrument.

St. Tammany Parish Coroner's Office

- STPCO had completed the needed RFP Specifications for the proposals of the validation work; all bids were submitted and reviewed. The vendor was awarded the contract to complete the validation work once the laboratory had moved into the new facility. This move was supposed to take place in May of this reporting cycle but has since been pushed back to the end of July. STPCO still feels that they will be able to complete the validation work within the life of the grant.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

- This grant was awarded on October 1, 2010. Six agencies utilized this grant: Acadiana Crime Laboratory (ACL), Jefferson Parish Sheriff's Office (JPSORDL), Louisiana State Police Crime Lab (LSPCL), North Louisiana Crime Lab (NLCL), Southwest Criminalistics Laboratory (SWLC), and St. Tammany Parish Coroner's Office (STPCO).
- All agencies worked to expend their remaining award from the 2010 grant over the last six month period.
- The total expenditures for each lab, including a breakdown of these expenditures, will be included on the final close-out report.

The Acadiana Crime Laboratory

- Utilized grant funding for overtime expenses, service contracts for instrumentation, outsourcing, equipment purchases, and training.
- No additional purchases were made this period.
- Overtime expended this period totaled \$167.58.

The Jefferson Parish Sherriff's Office

- Utilized grant funding for equipment purchases and information technology equipment/software.
- No additional purchases were made this period.
- Validation of the QIASymphony SP/AS instrument is ongoing. The validation is for bloodstains, fabric samples, contact DNA, and reference samples. Once this machine is released to be used on casework an increase in throughput should be seen.

- The DNA lab is still transitioning to the Justice Trax LIMS and is currently working with this vendor to obtain a variety of customized Crystal Reports for tracking of metrics and laboratory result reporting.
- The new Real-Time Instrument performance checks have been completed and this instrument is now in use.

The Louisiana State Police Crime Lab

- Utilized grant funding for overtime expenses, training, supplies, and equipment purchases.
- Purchased 15,000 Louisiana Convicted Offender Kits.

The North Louisiana Crime Lab

- Utilized grant funding to establish service agreements, training, supplies, and equipment purchases.
- Purchased equipment and supplies which included: ABI 7500 Real-Time PCR; YFiler kits for backlog cases; and Driftcon upgrade for the 9700 Thermocyclers.
- Analysts attended the Promega 2012 conference for their continuing education requirements.

Southwest Criminalistics Laboratory

- Utilized grant funding to purchase equipment, service agreements, and information technology equipment and software.
- Purchased miscellaneous equipment and supplies this period.
- Attended AAFS Meeting in Atlanta, GA.
- Completed validation of Promega Plexor HY Quantification System and Promega PowerPlex 18D Amplification System.

St. Tammany Parish Coroner's Office

- Utilized grant funding to purchase equipment and service contracts.
- Purchased 9700 Thermo-Cycler.
- In September 2012, STPCO moved to their new facility in Lacombe, LA. After validations and performance checks, some equipment was released for casework at the end of October and the remaining equipment was released and ready for casework by December 10, 2012.
- At no point during this process was the DNA Unit without validated instruments for casework. This was the goal of the project and a necessity because there were several "RUSH" cases with immediate deadlines and an identification of human remains case that occurred during this time period.

FINAL REPORT: The 2010 DNA Backlog Reduction Grant was awarded to the LSPCL on October 1, 2010 and closed on December 31, 2012. The goals of this project were to reduce the forensic DNA case/sample turnaround time, increase the throughput of current public DNA laboratories, and reduce the backlog of forensic DNA cases. Six agencies, including the LSPCL, utilized funding made available by this grant. Each participating agency worked toward the grant goals by streamlining operations, incorporating new analytical methods, integrating new technology, providing additional training for analysts, and outsourcing a percentage of backlogged cases.

- Participating agencies: Acadiana Crime Laboratory (ACL), Jefferson Parish Sheriff's Office – Regional DNA Laboratory (JPSORDL), Louisiana State Police Crime Laboratory

(LSPCL), North Louisiana Crime Laboratory (NLCL), Southwest Criminalistics Laboratory (SWLC), and St. Tammany Parish Coroner's Office (STPCO).

- Grant funding was utilized for a number of vital laboratory operations including the purchase of laboratory equipment, the purchase of information technology equipment/software, establishment of service contracts, outsourcing samples, analyst training, and overtime.

The major challenges faced by all laboratories participating in the grant were staffing levels, training, and outdated equipment. Laboratories addressed the staffing issues through the allotment of overtime and/or outsourcing of samples. Training issues were addressed by sending analysts to various training venues throughout the grant period. Finally, all laboratories participating in this grant either purchased new equipment or utilized grant funding to update their existing equipment.

Below is a summary of the impact the 2010 Backlog Reduction Grant had on each participating laboratory. This grant had a positive impact on each of these laboratories in various ways. It allowed for the purchase of equipment, provided training opportunities, increased production through overtime availability, and allowed many laboratories to purchase supplies which they otherwise may not have been able to purchase. Without this Grant funding, many of these laboratories would still be operating with out-of-date equipment, their analysts would not have received current training, and the necessary operating supplies may not have been available.

Acadiana Crime Laboratory (ACL):

At the beginning of the award period, ACL had 1,570 backlogged forensic DNA cases. ACL identified four areas they wanted to address utilizing funding from the 2010 DNA Backlog Reduction Grant. First, ACL wanted to allot funds for overtime for their analysts. Providing overtime funding to their analysts for forensic DNA sample processing would help increase their workflow and reduce their backlog. Secondly, ACL wanted to provide training for analysts, as training would benefit the entire lab by broadening their knowledge base and introduce new concepts/techniques. Third, ACL wanted to establish service contracts for equipment which would ensure the equipment utilized during analysis was functioning properly and would limit equipment downtime. Finally, ACL wanted to outsource samples, which would help reduce their backlog of forensic DNA cases.

ACL was able to address all four of these areas during the grant period. They began providing overtime to their employees almost immediately. In January 2011, they purchased five annual inspection agreements and four basic coverage agreements from Qiagen for their QIAcubes. In June 2011, they purchased a one year service contract from Qiagen for the QIAgility HEPA/UV. In the second reporting period of 2011, ACL outsourced a total of 114 forensic DNA cases. On December 19, 2011, 47 cases were sent to Orchid Cellmark in Dallas, TX; On December 27, 2011, 42 cases were sent to Sorenson Forensics in Salt Lake City, UT; and on December 30, 2011, 25 additional cases were sent to Sorenson Forensics. Training was addressed in October 2011, when two analysts attended Promega's 22nd International Symposium on Human Identification. The four day conference was held in National Harbor, MD and included workshops on familial searches, forensic DNA phenotyping, and troubleshooting common laboratory problems.

ACL began the award period (October 1, 2010) with 1,570 backlogged forensic DNA cases. At the end of the award period (December 31, 2012), they reported 886 backlogged forensic DNA cases, a 43.6% reduction.

Jefferson Parish Sheriff's Office – Regional DNA Laboratory (JPSORDL):

At the beginning of the award period, JPSORDL reported 400 backlogged forensic DNA cases. JPSORDL identified two areas they wanted to address utilizing funding from the 2010 DNA Backlog Reduction Grant. First, JPSORDL wanted to purchase additional laboratory equipment which would help reduce turnaround time in casework reporting. Secondly, JPSORDL wanted to increase the amount of space available for storage of samples and collection kits.

JPSORDL was able to purchase several pieces of equipment utilizing funding from this grant:

- Three Ultralite ALS Basic Kits
- One Countess Automated Cell Counter starter kit
- Seven Model CL-1000 UVP Crosslinkers
- Three K-700-HS Optical Systems
- Eight DocuTemp Temperature Monitoring Systems (RS-9042)
- Three Eppendorf Vacufuges (plus vacuum concentrator)
- One Qiasymphony SP
- One Qiasymphony AS
- One HID 7500 Real Time PCR System with computer

JPSORDL began the award period (October 1, 2010) with 400 backlogged forensic DNA cases. At the end of the award period (December 31, 2012), they reported 550 backlogged forensic DNA cases, a 37.5% increase.

Louisiana State Police Crime Lab (LSPCL):

At the beginning of the award period, LSPCL reported 685 backlogged forensic DNA cases. LSPCL identified three areas they wanted to address utilizing funding from the 2010 DNA Backlog Reduction Grant. First, LSPCL wanted to provide training for DNA analysts. This would benefit the entire lab by broadening its knowledge base while introducing new concepts/techniques. Secondly, LSPCL wanted to allot funds for overtime for analysts. Providing overtime funding to analysts for forensic DNA sample processing would help increase workflow and reduce the backlog. Finally, LSPCL wanted to purchase additional laboratory equipment which would help reduce turnaround time in casework reporting.

LSPCL was able to address all three of these issues during the grant period. In October 2011, several LSPCL analysts attended Promega's 22nd International Symposium on Human Identification. The four day conference was held in National Harbor, MD and included workshops on familial searches, forensic DNA phenotyping, and troubleshooting common laboratory problems. Analysts began utilizing grant funding for overtime expenses as no state overtime was available. Finally, LSPCL was able to purchase several pieces of equipment including a Digital Vortex Genie, thermomixers, and centrifuges.

LSPCL began the award period (October 1, 2010) with 685 backlogged forensic DNA cases. At the end of the award period (December 31, 2012), they reported 38 backlogged forensic DNA cases, a 94.5% decrease.

North Louisiana Crime Laboratory (NLCL):

At the beginning of the award period, NLCL reported 695 backlogged forensic DNA cases. NLCL identified three areas they wanted to address utilizing funding from the 2010 DNA Backlog Reduction Grant. First, NLCL wanted to purchase additional/updated laboratory equipment to aid in the reduction of turnaround time in casework reporting. Secondly, they wanted to utilize grant funding to purchase laboratory supplies and finally, they wanted to provide training for DNA analysts.

The following is a partial list of purchases made by NLCL during the grant period:

- Service agreements for several vital pieces of equipment
 - AB 3130 Genetic Analyzer
 - AB 3130XL Genetic Analyzer
 - AB 7000 Sequence Detection System
 - LABFX annual software support and maintenance agreement
- One Quantifiler Human DNA Kit
- Three PowerPlex 16 systems
- Three AmpFLSTR SGM Plus PCR Amplification Kits
- Three AmpFLSTR Identifiler Plus PCR Amplification Kits
- Three AmpFLSTR NGM Select PCR Amplification Kits
- One thermomixer with 1.5 ml block
- Two GeneAmp PCR Systems (9700)
- Seven Eppendorf MiniSpin Plus Centrifuges

In October 2011, two NLCL analysts attended Promega's 22nd International Symposium on Human Identification. The four day conference was held in National Harbor, MD and included workshops on familial searches, forensic DNA phenotyping, and troubleshooting common laboratory problems. In April 2012, one analyst was able to attend Bode Technology's Ninth Annual Advanced DNA Technical Workshop in San Diego, CA. The five day workshop provided DNA training which included lectures, demonstrations, and mini-workshops on new technologies, new concepts and challenges in the DNA identification field.

NLCL began the award period (October 1, 2010) with 695 backlogged forensic DNA cases. At the end of the award period (December 31, 2012), they reported 666 backlogged forensic DNA cases, a 4.2% decrease.

Southwest Criminalistics Laboratory (SWCL):

At the beginning of the award period, SWCL reported 33 backlogged forensic DNA cases. SWCL identified two areas they wanted to address utilizing funding from the 2010 DNA Backlog Reduction Grant. First, SWCL wanted to purchase additional/updated laboratory equipment to aid in the reduction of turnaround time in casework reporting. Secondly, SWCL wanted equipment validations performed. Both of these issues were addressed during the grant period. Equipment purchases included a Milliport Milli-Q Integral System and two GeneAmp PCR Systems (9700). Additionally, in June 2012, Life Technologies performed validations on several pieces of equipment.

SWCL began the award period (October 1, 2010) with 33 backlogged forensic DNA cases. At the end of the award period (December 31, 2012), they reported 62 backlogged forensic DNA cases, an 87.9% increase.

St. Tammany Parish Coroner's Office (STPCO):

At the beginning of the award period, STPCO reported 65 backlogged forensic DNA cases. STPCO identified two areas they wanted to address utilizing funding from the 2010 DNA Backlog Reduction Grant. First, STPCO wanted to purchase additional/updated laboratory equipment which would help reduce turnaround time in casework reporting. Secondly, STPCO wanted equipment validations performed. Both of these issues were addressed during the grant period. STPCO purchased the following items:

- QIAgility service agreements
- Leica Microdissection system service agreements
- CODIS server
- One QIAgility HEPA/UV

- Validation of the Promega Plexor HY Quantification System
- Validation of the Promega PowerPlex 18D Amplification System

In February 2012, three analysts attended the 64th Annual Scientific Meeting of the American Academy of Forensic Sciences in Atlanta, GA. During this meeting, industry professionals presented the most current information, research, and updates in the DNA analysis field.

STPCO began the award period (October 1, 2010) with 65 backlogged forensic DNA cases. At the end of the award period (December 31, 2012), they reported 167 backlogged forensic DNA cases, a 156.9% increase. This increase in backlogged forensic DNA cases can be partly attributed to relocation of the laboratory in October 2012.

FY10 Recipient Name: Massachusetts State Police

Award Number: 2010-DN-BX-K106

Award Amount: \$1,042,765

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

1. To purchase equipment to aid in automated methods**
2. To contract with temporary employees to assist with validation studies and quality assurance in the DNA Unit.
3. Contracting with an accredited external agency for the testing and analysis of casework samples.
4. To purchase additional licenses for data analysis software**
5. Enhancements to the DNA Matrix, an electronic data management system for sample tracking which is integrated into the Laboratory Information Management System (LIMS) currently in use.
6. Training for DNA analysts in accordance with Quality Assurance Guidelines for Forensic DNA Testing Laboratories.
7. Purchase of CODIS collection kits pre-labeled with barcodes for tracking and integration with DNA Matrix.**

Key: ** changes in award due to a GAN.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

****Goal 1: Equipment**

The equipment originally slated for this grant was moved to the 2009 DNA Backlog Reduction grant as part of the most recent GAN. This goal is complete.

Goal 2: Contract Technicians

Temporary employees assist the Unit by completing validation projects of new technologies without impeding the current casework operations in the Unit. With the continued use of these support personnel, projects can be completed to assist in increasing the efficiency of the Forensic Biology Unit. When the funding from the 2009 DNA Backlog Reduction grant is exhausted this 2010 DNA Backlog Reduction grant funding will allow us to keep three current temporary employees as well as add three additional temporary employees. These temporary employees will aid in the case management aspect of screening and clearing of DNA cases for assignment as well as

prepare cases for processing by our external vendor that contracted through a previous competitive bid process. This goal is ongoing.

Goal 3: Outsource Testing of Casework Samples

A contract with an accredited external agency for the testing and analysis of casework samples will contribute to the overall goal of reducing the number of samples queued for DNA testing. As a result of the 2009 / 2010 DNA Backlog Reduction Grant GANs, the overall funding in this category was increased. This funding will be utilized for outsourcing of cases to Orchid Cellmark, who was awarded our contract through a competitive bidding process. Once we have drawn down at least 90% of the 2008 DNA Backlog Grant funding for this contract category the special condition will be removed from this funding and the outsourcing will continue with the funding within this award. This goal is ongoing.

**Goal 4: Data Analysis Software

With the purchase of computers for the Unit from the 2009 DNA Backlog Reduction Grant as well as the possibility of gaining new personnel, additional licenses for our data analysis software will be required. During the GAN process for the 2009 DNA Backlog Reduction award this goal was transferred from the 2010 DNA Backlog Reduction program to the 2009 program. This goal is complete.

Goal 5: LIMS DNA Matrix

Planned enhancements to the DNA Matrix include the addition of worksheets as new automated instruments are brought online as well as updates to the program to enhance the current sample tracking and electronic data management capacities. We are currently assessing the system to see where improvements and enhancements would be most beneficial. Porter Lee was awarded this contract as a result of a competitive bid process. This goal is ongoing.

Goal 6: Specialized Training

The Forensic Biology Unit, along with additional MSPFSG Units within the Forensic Services Group, is currently working on a "Request for Response" (RfR) to allow us to broaden our scope of training for the DNA Unit. In the meantime, we are gathering information and planning for the types of training that we anticipate holding due to this award funding. Unfortunately, the release of the Request for Response has delayed scheduling for the Advanced DNA Analysis Methods class. We are still waiting to schedule the ABI Advanced Troubleshooting class. Upon release of the RfR the Advanced DNA Analysis Methods class(es) will be scheduled for in-house training.

This goal is ongoing.

**Goal 7: CODIS Collection Kits

The CODIS collection kits originally slated for this grant were moved to the 2009 DNA Backlog Reduction grant as part of the most recent GAN. This goal is complete.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

**Goal 1: Equipment

This goal is complete.

Goal 2: Contract Technicians

Currently, there are four temporary technicians employed under this grant working exclusively in the case management aspect of the screening and clearing of DNA cases for assignments as well as preparing the cases for processing by our contracted external

vendor lab. To date, these employees have enabled the Forensic Biology section to outsource hundreds of DNA cases resulting in a significant decrease in the backlog. It is anticipated within the next award period that the four technicians currently employed under the 2009 DNA Backlog Reduction grant will be transferred to this award. These technicians assist the Unit through their work on validation projects and other tasks essential to keep the DNA Unit running. This will enable the validation projects to continue in a seamless fashion and assist the Unit's overall efficiency. This goal is ongoing.

Goal 3: Outsource Testing of Casework Samples

The MSPFSG was able to draw down the remaining funds within the contract category in the 2008 DNA Backlog Grant funding. Therefore, the special condition on the 2010 DNA Backlog Reduction award contract category was lifted. The DNA Unit has made significant progress with the expenditure of these funds outsourcing cases to Orchid Cellmark, who was awarded our contract through a competitive bidding process. The end result of this funding category will be a significant decrease upon the MSPFSG DNA case backlog. This goal is ongoing.

**Goal 4: Data Analysis Software

This goal is complete.

Goal 5: LIMS DNA Matrix

Planned enhancements to the DNA Matrix include the addition of worksheets as new automated instruments are brought online as well as updates to the program to enhance the current sample tracking and electronic data management capacities. We are currently working with Porter Lee to deliver the best enhancements to our current system. Porter Lee was awarded this contract as a result of a competitive bid process. This goal is ongoing.

Goal 6: Specialized Training

The RfR was closed during this award period and the contract is being finalized. An RfR is a solicitation used to award a state contract through a competitive bidding process. This RfR was developed by the Forensic Biology Unit in conjunction with the Forensic Services Group to enable the FSG system the ability to request a broad scope of training throughout the forensic disciplines from the vendor. Once the contract is finalized, this vendor will be used for contracting or sub-contracting training according to the specifications of the DNA Unit for the duration of the contract, which will include training proposed in this award as well as the 2009 DNA Backlog Reduction award. Additional training requested in this award (e.g., ABI Advanced Troubleshooting Class) is expected to commence within the next reporting period. This goal is ongoing.

**Goal 7: CODIS Collection Kits

This goal is complete.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

**Goal 1: Equipment

This goal is complete.

Goal 2: Contract Technicians

During this reporting period, we had up to nine technicians employed under this grant.

Under this grant, five technicians worked exclusively in the case management aspect of the screening and clearing of DNA cases for assignments as well as preparing the cases for processing by our contracted external vendor lab. These employees have enabled the Forensic Biology section to outsource hundreds of DNA cases resulting in a significant decrease in the backlog.

As anticipated in the last reporting period, four technicians working in the DNA Unit were transferred from the 2009 DNA Backlog Reduction Program grant to this grant. These technicians assist the Unit through their work on validation projects and other tasks essential to keeping the DNA Unit running.

Unfortunately, during this reporting period, we lost several technicians through attrition: two from Case Management and two from the DNA Unit. We are also in the process of hiring three of the remaining technicians into full time positions at the MSPFSG funded by the 2011 DNA Backlog Grant. We have contacted our temporary employee agency, contracted to the Commonwealth through a competitive bidding process, to solicit resumes for these open technician positions. To date, we have received a few resumes and await several more in order to select the best overall candidates for these positions. This goal is ongoing.

Goal 3: Outsource Testing of Casework Samples

The DNA Unit has made significant progress with the expenditure of these funds by outsourcing cases to Orchid Cellmark, who was awarded a contract through a competitive bidding process. This has resulted in a significant decrease in the DNA Unit case backlog. This goal is ongoing.

**Goal 4: Data Analysis Software

This goal is complete.

Goal 5: LIMS DNA Matrix

We continue to work with Porter Lee on the planned enhancements to the DNA Matrix. Porter Lee was awarded this contract as a result of a competitive bid process. This goal is ongoing.

Goal 6: Specialized Training

A contract was obtained through a competitive bidding process with Sorenson Forensics of Salt Lake City, UT for DNA specific training. During this reporting period we scheduled our first in-house training with Sorenson, using funding from the 2009 DNA Backlog Reduction Program grant. We have an additional training planned with Sorenson Forensics for the next reporting period which will result in the expenditure of the 2009 DNA Backlog Reduction Program training funds. In addition to the DNA classes offered through Sorenson Forensics, this grant includes the Applied Biosystems Advanced Troubleshooting class. This class will be scheduled once federal approval is obtained. This goal is ongoing.

**Goal 7: CODIS Collection Kits

This goal is complete.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

**Goal 1: Equipment

This goal is complete.

Goal 2: Contract Technicians

During this reporting period, we had up to six technicians employed under this grant.

We hired three technicians to work in the case management aspect of screening and clearing DNA cases for assignments. These technicians replaced employees that during the last reporting period had left through attrition or were hired into full time positions in the MSPFSG. These case management technicians prepare cases for processing by our contracted external vendor lab. These employees have contributed to the Forensic Biology section's goal of outsourcing hundreds of DNA cases resulting in a significant decrease in the unit's backlog.

We also hired two QC technicians for the DNA Unit. These technicians perform quality control and quality assurance functions within the unit to allow the analysts to focus on casework in order to reduce our backlog. This goal is ongoing.

Goal 3: Outsource Testing of Casework Samples

The DNA Unit has continued to outsource cases to Orchid Cellmark to reduce the overall backlog of DNA cases in Forensic Biology. This goal is ongoing.

**Goal 4: Data Analysis Software

This goal is complete.

Goal 5: LIMS DNA Matrix

We continue to work with Porter Lee on the planned enhancements to the DNA Matrix. Porter Lee was awarded this contract as a result of a competitive bid process. This goal is ongoing.

Goal 6: Specialized Training

A contract was obtained through a competitive bidding process with Sorenson Forensics of Salt Lake City, UT for DNA specific training. In June, we held our first in-house training using the 2010 DNA Backlog Reduction Program training funds. Analysts attended the Advance Y-STR Analysis and Interpretation training class held at our Maynard, MA laboratory. We have tentatively scheduled a Courtroom Testimony course in August 2012, and a course in Relatedness and Familial Statistics for September 2012. These classes will be officially scheduled once federal approval is obtained. This goal is ongoing.

**Goal 7: CODIS Collection Kits

This goal is complete.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: Equipment

In a grant adjustment notice (GAN) submitted in August 2012, additional equipment was requested. We purchased the following equipment in this reporting period: four crime lites for detecting biological evidence, an evidence drying cabinet, a rotator/shaker platform used for agitating samples in microcentrifuge tubes for specific testing protocols and two microplate microcentrifuges to replace non-functioning units. This goal is complete.

Goal 2: Contract Technicians

During this reporting period, we had six technicians employed under this grant. Three technicians were dedicated to work in the case management aspect of screening and clearing DNA cases for assignments. These case management technicians prepare cases for processing by our contracted external vendor lab. These employees have contributed to the Forensic Biology section's goal of outsourcing hundreds of DNA cases resulting in a significant decrease in the unit's backlog.

Two QC technicians and a validation technician contributed to the DNA Unit by performing quality control and quality assurance functions and validation functions within the unit to allow the analysts to focus on casework in order to reduce our backlog. The funding for contract technicians under this grant was exhausted by the end of September. This goal is complete.

Goal 3: Outsource Testing of Casework Samples

The DNA Unit has continued to outsource cases to Orchid Cellmark to reduce the overall backlog of DNA cases in Forensic Biology. We have exhausted the funding from this grant during this reporting period. This goal is complete.

**Goal 4: Data Analysis Software

This goal is complete.

Goal 5: LIMS DNA Matrix

The planned enhancement to the DNA Matrix worksheet program within our LIMS system was delivered during this reporting period. We have added a worksheet for our Qiagen EZ1 Extraction robots into the DNA Matrix to enhance sample tracking and reduce transcription errors through the use of automated worksheets. Porter Lee was awarded this contract as a result of a competitive bid process. This goal is complete.

Goal 6: Specialized Training

A contract was obtained through a competitive bidding process with Sorenson Forensics of Salt Lake City, UT for DNA specific training. During this reporting period, we contracted with Sorenson for two training classes: a one day workshop on Courtroom Testimony with 37 attendees from Forensic Biology, and a one day workshop in Relatedness and Familial Statistics for 27 DNA analysts and supervisors. These in-house trainings have been beneficial to the Forensic Biology unit by providing high quality training for the entire unit while keeping the disruption to casework at a minimum. These two workshops have exhausted our training funding under this grant. This goal is complete.

**Goal 7: CODIS Collection Kits

This goal is complete.

Additional Goals

In a grant adjustment notice (GAN) submitted in August 2012, funding was requested in the contracts category for the installation of a system upgrade to our TempGenius system, an automated temperature monitoring system. Through a previous competitive bidding process, we secured a contract with TempGenius for a system to automatically monitor temperatures of critical laboratory areas and equipment. Remote sensors are placed in labs and within critical equipment, such as refrigerators holding evidence or reagents, and the computer system monitors that these areas are within their temperature ranges. The upgrade requested enables better tracking of individual pieces of equipment as each one can have its own set temperature range and it includes an alarm system that notifies designated personnel if equipment is out of temperature range. The upgrade was completed during this reporting period. This goal is complete. Also in the contracts category, Honeywell was contracted through a competitive bidding process to add dehumidifiers to the two cold storage units located in the Maynard laboratory. These walk-in refrigeration units are short term storage locations for evidence delivered from our main storage facility in the Evidence Control Unit

located in Sudbury. Refrigeration as well as humidity control is essential to protect evidence containing biological material from degradation. This goal is complete. Additionally, in the Other Costs category, we were able to purchase cryoboxes for extract storage and long term sample storage containers. Furthermore, splash shields were purchased to protect bench areas located adjacent to sinks in the laboratory where items of evidence are examined. These added items were purchased to exhaust the funding left in this grant. This goal is complete.

PROGRESS REPORT 6: January 1, 2013 –March 31, 2013

Goal 1: Equipment

This goal is complete.

Goal 2: Contract Technicians

This goal is complete.

Goal 3: Outsource Testing of Casework Samples

This goal is complete.

Goal 4: Data Analysis Software

Through an approved GAN, the purchase of additional data analysis software licenses was moved from the 2010 DNA Backlog Reduction program to the 2009 DNA Backlog Reduction program.

Goal 5: LIMS DNA Matrix

This goal is complete.

Goal 6: Specialized Training

This goal is complete.

**Goal 7: CODIS Collection Kits

The CODIS collection kits originally slated for this grant were moved to the 2009 DNA Backlog Reduction grant as part of an approved GAN.

Additional Goals

In a grant adjustment notice (GAN) submitted in August 2012, funding was requested in the contracts category for the installation of a system upgrade to our TempGenius system, an automated temperature monitoring system. Through a previous competitive bidding process, we secured a contract with TempGenius for a system to automatically monitor temperatures of critical laboratory areas and equipment. Remote sensors are placed in labs and within critical equipment, such as refrigerators holding evidence or reagents, and the computer system monitors that these areas are within their temperature ranges. The upgrade requested enables better tracking of individual pieces of equipment as each one can have its own set temperature range and it includes an alarm system that notifies designated personnel if equipment is out of temperature range. This goal is complete.

Also in the contracts category, Honeywell was contracted through a competitive bidding process to add dehumidifiers to the two cold storage units located in the Maynard laboratory. These walk-in refrigeration units are short term storage locations for evidence delivered from our main storage facility in the Evidence Control Unit located in Sudbury. Refrigeration as well as humidity control is essential to protect evidence containing biological material from degradation. This goal is complete. Additionally, in the Other Costs category, we were able to purchase cryoboxes for extract storage and long term sample storage containers. Furthermore, splash shields

were purchased to protect bench areas located adjacent to sinks in the laboratory where items of evidence are examined. These added items were purchased to exhaust the funding left in this grant. This goal is complete.

FINAL REPORT:

Goal 1: Equipment

In a grant adjustment notice (GAN) submitted in August 2012, additional equipment was requested. The following equipment was purchased:

- four crime lites for detecting biological evidence;
- an evidence drying cabinet;
- a rotator/shaker platform used for agitating samples in microcentrifuge tubes for specific testing protocols; and
- two microplate microcentrifuges to replace non-functioning units.

The use of grant funds to supplement, upgrade or replace nonfunctioning equipment has been essential to the MSPFSG goals of increasing the number of cases processed and reducing the turn-around time.

The alternate light sources (crime lites) have been used at crime scenes and in the laboratory to examine evidence for the presence of biological material. By locating stains for screening tests, such as presumptive and confirmatory tests for blood, semen and saliva, the Forensic Biology Criminalistics Unit can identify which stains are biological in nature and would be appropriate for DNA testing. Prescreening of samples aids in sending the most probative samples to the DNA Unit for testing. In running the confirmatory tests in the Criminalistics Unit, swabs or cuttings from evidentiary material are placed into microcentrifuge tubes and treated with specific chemicals to release the biological material from the substrate for testing. The rotator/shaking platform is used in these protocols to agitate the microcentrifuge tubes so that the biological material can be released from the substrate into the solution for further testing. This was an additional piece of equipment added to the unit to increase the number of samples that could be processed.

The evidence drying cabinet is an enclosed, clean area used for the storage of evidentiary items that need to be dried before packaging for storage prior to examination. Items from only one case at a time are dried in the cabinet which is cleaned with bleach between uses. Items that are packaged when still wet take longer to dry and may develop mold due to the wet environment which can affect DNA analysis. Also, the possibility of cross contamination between items is higher when items are wet. This drying cabinet was installed in our satellite laboratory in Springfield so that evidence collected at crime scenes in that area can be dried and packaged for processing.

Goal 2: Contract Technicians

Six temporary technician positions were funded with this grant.

Three technicians were dedicated to the Case Management Unit (CMU) for screening and clearing DNA cases for assignments. The CMU technicians prepared cases for processing by our external vendor lab. These employees have contributed to the DNA Unit's goal of outsourcing 1,414 samples. The CMU was able to send out 815 cases consisting of 1,522 samples. This resulted in a significant decrease in the DNA Unit's backlog. At the beginning of the grant, the backlog in the DNA Unit was 3,264 cases.

At the end of the grant it was 2,464 cases. These CMU temporary technicians also cleared cases for in-house testing by contacting investigators and District Attorney's offices to obtain needed standards for comparison or exhaustive authorization permission for consuming limited samples.

The other technicians worked as temporary quality control and validation technicians. They contributed to the DNA Unit by performing quality control and quality assurance functions in the unit as well as validation functions within the unit to allow the analysts to focus on casework in order to reduce the backlog. There was some attrition in these positions, but key positions were filled for the majority of the grant period. The Forensic Biology Unit has benefitted from the hiring of three temporary technicians into permanent positions within Forensic Biology. One was hired as a validation technician, one as a Forensic Scientist in the DNA Unit and one as a laboratory technician in the CODIS Collection and Investigative Unit (CCIU).

The funding for contract technicians under this grant was exhausted by the end of September of 2012. As these positions have been beneficial to the Forensic Biology Unit, these positions continue to be funded on the FY11 DNA Backlog Reduction Program.

Goal 3: Outsource Testing of Casework Samples

Orchid Cellmark was awarded a contract through a competitive bidding process to test biological samples for DNA. Outsourcing of DNA cases has been an effective means of reducing the overall backlog in the DNA Unit from 3,246 cases at the beginning of the grant period to 2,464 cases at the end of the grant.

The DNA testing capacity has increased through a variety of initiatives, but demand also continues to increase. Initiatives such as robotics, temporary technicians, upgrades to equipment, additional staff and improvements to LIMS by adding the DNA Matrix electronic tracking and worksheet system have streamlined many aspects of testing.

The number of cases as well as the number of samples per case where DNA is requested continues to increase. An Item Analysis Policy was established to limit the number of samples per round of testing to focus on the most probative samples. This policy also encourages thorough samples selection, greatly increasing the chance of uploading a profile to CODIS. The use of CODIS in establishing links between cases and convicted offenders has assisted at solving numerous property crimes.

In-house review is still required of all outsourced DNA cases, but there is still an overall savings in time in outsourcing the sample testing. Cases are batched for review during an analyst's "down time", such as while waiting for sample processing on the genetic analyzer capillary electrophoresis instrument.

Goal 4: Data Analysis Software

Through an approved GAN, the purchase of additional data analysis software licenses was moved from the 2010 DNA Backlog Reduction program to the 2009 DNA Backlog Reduction program.

Goal 5: LIMS DNA Matrix

The planned enhancement to the DNA Matrix worksheet program within the LIMS included a worksheet for our Qiagen EZ1 Extraction robots into the DNA Matrix to enhance sample tracking and reduce transcription errors through the use of automated worksheets. Porter Lee was awarded this contract.

The DNA Matrix is an electronic tracking and worksheet system. The DNA Matrix streamlines many aspects of DNA analysis. Worksheets are created within the DNA Matrix by pulling information already entered into the LIMS when evidence is submitted. By having worksheet templates in use only through the Matrix, it ensures only the most current and approved versions of worksheets are in use in the unit. The Matrix can auto-fill worksheets with sample information such as sample type, outer packaging and sample description entered into the LIMS along with the unique case and item numbers assigned to the sample. This information is carried between worksheets so that no transcription is required by the analyst.

The Matrix is also able to import and export information between some of the instruments, such as the real time-PCR and genetic analyzer capillary electrophoresis instruments. Sample information can be exported from the Matrix to the instrument so no transcription is necessary at the instrument level. Results from the real time-PCR instrument can be imported into the Matrix so that the DNA quantitation values are added directly into the amplification worksheet and the Matrix performs the calculations needed for amplification setup.

Report templates are also generated in the Matrix so that the most current approved version of the template is in use and an electronic version of the report has been saved in a secure format. Once an assignment has been technically and administratively reviewed, the assignment is approved in LIMS and the report and worksheets are locked documents. The documents can be accessed for viewing or printed for discovery requests if needed, but changes cannot be made to these electronic versions.

Goal 6: Specialized Training

A contract was obtained through a competitive bidding process with Sorenson Forensics of Salt Lake City, UT for DNA specific training. During this grant period, we contracted with Sorenson for three training classes: a two day workshop on Advanced Y-STR Analysis; a one day workshop on Courtroom Testimony; and a one day workshop in Relatedness and Familial Statistics. These in-house trainings have been beneficial by providing high quality training for the entire unit while keeping the disruption of casework at a minimum.

Goal 7: CODIS Collection Kits

The CODIS collection kits originally slated for this grant were moved to the 2009 DNA Backlog Reduction grant as part of a GAN.

Additional Goals

In a grant adjustment notice (GAN) submitted in August 2012, funding was requested in the contracts category for the installation of a system upgrade to the TempGenius system, an automated temperature monitoring system. Through a previous competitive bidding process, a contract was awarded for the installation of a TempGenius system to automatically monitor temperatures of critical laboratory areas and equipment. Remote sensors were placed in labs and within critical equipment, such as refrigerators holding evidence or reagents. A software program monitors that these areas are within their temperature ranges. The upgrade installed enables better tracking of individual pieces of equipment as each one can have its own set temperature range. It also includes an alarm system that notifies designated personnel if equipment is out of temperature range.

Also in the contracts category, Honeywell was contracted through a competitive bidding process to add dehumidifiers to the two biological evidence cold storage units located in the Maynard laboratory. These walk-in refrigeration units are short term storage locations for evidence delivered from the main storage facility in the Evidence Control Unit located in Sudbury. Refrigeration as well as humidity control is essential to protect evidence containing biological material from degradation. Additionally, in the Other Costs category, cryoboxes for extract storage were purchased as well as long term sample storage containers. Splash shields were purchased to protect bench areas located adjacent to sinks in the laboratory where items of evidence are examined.

FY10 Recipient Name: City of Boston, Massachusetts

Award Number: 2010-DN-BX-K122

Award Amount: \$307,967

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: To maintain high quality services and improve the overall efficiency of the Boston Police Crime Laboratory's DNA section.
- Goal 2: To improve coordination and tracking of cases with other forensic units and investigators
- Goal 3: To maintain low DNA casework backlogs and turnaround time.

Objective
Physical Space
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.
Staffing Requirements
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.
Training and Development
Ongoing training & professional development.
Equipment and Technology
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.
Improve lab standards for evidence storage, case file management, improved case coordination with other forensic units and detectives, and management integrity.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Personnel slated to work under funding from this award are currently working under the FY09 DNA Backlog award. When funds from the FY09 Award have been exhausted, they will be transferred to this award.

No supplies have been bought as of yet, and the money set aside for LIMS maintenance has not been used due to the pending installation and implementation of the LIMS system.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

A very minimal amount of funds have been used as a part of the FY10 program as of this writing. The funds were used from 1/10/11 – 1/24/11 for full time employees of the lab (not grant-funded). The casework performed was technical review of DNA casework on backlogged cases for faster delivery of test results to the customer, and also faster CODIS entry for any eligible profiles. Once Crime Lab staff realized that the overtime funds from the FY09 award had not yet been exhausted, they began spending the older funds first. However, the casework metrics reported are derived from this overtime. Once overtime funds from the FY09 award have been exhausted, overtime spending will begin on the FY10 grant.

The majority of funds in this award are being used for personnel: 1 DNA Analyst, 1 Forensic Technologist, and 1 LIMS Project Coordinator. These positions are currently funded by the BPD's FY09 DNA Backlog Reduction award. When these positions exhaust the allocated funds under the FY09 award, they will be moved to the FY10 DNA Backlog award.

The BPD requested a large amount of funds for casework supplies. These supplies have not yet been ordered as the Crime Lab is fully stocked in these supplies for the time being. Due to the limited space for storage in the lab, these supplies will be ordered on an as-needed basis.

The final item requested in this award is for LIMS maintenance fees and needed supplies and equipment. Because the LIMS system is still in the process of being integrated at the BPD by Porter Lee, there has been no need for maintenance costs or additional supplies or equipment. When maintenance or additional LIMS products are necessary, they will be purchased through funds with this award. Please see the FY08 and FY09 awards for more details on the LIMS implementation at the BPD.

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards</i>

assistance in DNA analysis and backlog reduction	<i>the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation of a Laboratory Information Management System.</i>
Training and Development	
Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding.</i>
Improve lab standards for evidence storage, case file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>LIMS system to be received under a 2008 Backlog Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management.</i>

Regarding the goals and objectives as stated in the FY10 DNA Backlog application:

The BPD Crime Laboratory continues to work tirelessly towards achieving the goal of maintaining an efficient, high quality lab service. Despite rising levels of violence, budget cuts, and a staff of only five DNA analysts, the lab has been able to address backlogged cases while also quickly returning cases that are of high priority for the BPD. During 2010 and 2011, the City of Boston has seen increases in non-fatal shootings, homicides, and breaking and entering incidents that demand a large amount of forensic attention.

During this reporting period, although the backlog increased slightly, the number of samples analyzed per analyst per month actually increased since the last reporting period. These improvements can be attributed both to the ongoing physical improvements in the lab, staff training, and dedication of the analysts. Ongoing training and professional development of Forensic Group staff is coordinated through the section directors and the quality manager of the Forensic Group. Training is funded through the Coverdell program.

The Crime Lab has maintained a grant funded analyst and forensic technologist as part of the FY09 DNA Backlog Reduction program and will continue to fund them on the this award once FY09 funds have been expended. The BPD has also hired a LIMS Coordinator as part of the FY09 grant, who has been integral in assimilating the LIMS system into BPD. Further details on LIMS progress can be found in the reports for the FY08 and FY09 awards, but the LIMS system

is and will continue to contribute greatly to the goal of improved coordination and tracking of cases across units and investigators.

The Crime Lab is in good shape as far as equipment, but will purchase a new Genetic Analyzer using anticipated FY11 DNA Backlog funds in order to replace a discontinued model.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Regarding the objectives in the award as dictated by the requested funding in each budget

area: A very minimal amount of funds have been used as a part of the FY10 program as of this writing. Some casework was performed, such as technical review of DNA casework on backlogged cases for faster delivery of test results to the customer, and also faster CODIS entry for any eligible profiles. Crime Lab staff have been working from FY09 DNA Backlog overtime funds, which were just recently exhausted in the past month. Now that those funds are gone, backlogged cases will be worked solely from FY10 overtime until those funds are also exhausted.

The majority of funds in this award are being used for personnel: 1 DNA Analyst, 1 Forensic Technologist, and 1 LIMS Project Coordinator. These positions were funded by the BPD's FY09 DNA Backlog Reduction award, and the Forensic Technologist as well as the LIMS Project Coordinator have just been carried over to the FY10 award in recent weeks. The DNA Analyst who was funded by the FY09 award was hired on a permanent basis in October, and a candidate has been selected to replace him. The new DNA analyst is expected to start in early 2012, once they have gone through the extensive City of Boston/BPD hiring process.

The BPD requested a large amount of funds for casework supplies. These supplies have not yet been ordered as the Crime Lab is adequately stocked in these supplies for the time being. Due to the limited space for storage in the lab, these supplies will be ordered on an as-needed basis.

The final item requested in this award is for LIMS maintenance fees and needed supplies and equipment. Because the LIMS system is still in the process of being integrated at the BPD by Porter Lee, there has been no need for maintenance costs. When maintenance or additional LIMS products are necessary, they will be purchased through funds with this award. The BPD is in the process of ordering 16 new computers that will allow for Forensic Group staff to use the LIMS software to its greatest capacity.

Goal 1: To maintain high quality services and improve the overall efficiency of the Boston Police Crime Laboratory's DNA section.

Goal 2: To improve coordination and tracking of cases with other forensic units and investigators

Goal 3: To maintain low DNA casework backlogs and turnaround time.

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation of a Laboratory Information Management System.</i>
Training and Development	
Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding. Will purchase new genetic analyzer with 2011 Backlog funds.</i>
Improve lab standards for evidence storage, case	<i>LIMS system received under 2008 Backlog</i>

file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management. BPD is exploring DIMS options for digital evidence storage.</i>
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Regarding the goals and objectives as stated in the FY10 DNA Backlog application:

The BPD Crime Laboratory continues to work tirelessly towards achieving the goal of maintaining an efficient, high quality lab service. Despite rising levels of violence, budget cuts, and a staff of only four DNA analysts, the lab has been able to address backlogged cases while also quickly returning cases that are of high priority for the BPD. During 2010 and 2011, the City of Boston has seen increases in non-fatal shootings, homicides, and breaking and entering incidents that demand a large amount of forensic attention.

During this reporting period, the backlog decreased and the number of samples analyzed per analyst per month stayed steady at a robust 24. These improvements can be attributed both to the ongoing physical improvements in the lab, staff training, and dedication of the analysts. Ongoing training and professional development of Forensic Group staff is coordinated through the section directors and the quality manager of the Forensic Group. Training is traditionally funded through the Coverdell program, but from the FY11 DNA Backlog grant forward, DNA Section trainings will be funded through DNA Backlog grants.

The Crime Lab has maintained a grant funded analyst and forensic technologist as part of the DNA Backlog Reduction program and will continue to fund them on the this award now that FY09 funds have been expended. The BPD has also hired a LIMS Coordinator as part of the FY09 grant, who has been integral in assimilating the LIMS system into BPD. Further details on LIMS progress can be found in the reports for the FY08 and FY09 awards, but the LIMS system is and will continue to contribute greatly to the goal of improved coordination and tracking of cases across units and investigators.

The Crime Lab is in good shape as far as equipment, but will purchase a new Genetic Analyzer using FY11 DNA Backlog funds in order to replace a discontinued model.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Regarding the objectives in the award as dictated by the requested funding in each budget area:

A very minimal amount of funds have been used as a part of the FY10 program as of this writing. Some casework was performed, such as technical review of DNA casework on backlogged cases for faster delivery of test results to the customer, and also faster CODIS entry for any eligible profiles. Since FY10 DNA Backlog overtime funds were exhausted during the end of the last reporting period, the backlogged cases are currently being worked on solely from FY11 DNA Backlog overtime until those funds are also exhausted.

The majority of funds in this award are being used for personnel: 1 DNA Analyst, 1 Forensic Technologist, and 1 LIMS Project Coordinator. These positions were funded by the BPD's FY09 DNA Backlog Reduction award, and the Forensic Technologist as well as the LIMS Project Coordinator have recently been carried over to the FY10 award. The DNA Analyst funded under the FY09 award transitioned out of the grant and was given a permanent position on the city's operating budget back in October. A new DNA Analyst was hired in May and has already completed six trainings.

The BPD requested a large amount of funds for casework supplies. These supplies are in the process of being ordered as the Crime Lab is in need of additional supplies. Due to the limited space for storage in the lab, these supplies will continue to be ordered on an as-needed basis.

The final item requested in this award is for LIMS maintenance fees and needed supplies and equipment. The LIMS system is still in the process of being integrated at the BPD by Porter Lee and should be up and running sometime prior to the end of this calendar year. During this reporting period, 16 new computers were bought with funds from this award. These computers will allow the Forensic Group staff to use the LIMS software to its greatest capacity. In the next few months, maintenance will be necessary for the LIMS system. The maintenance will be paid for with funds from this award.

Goal 1: To maintain high quality services and improve the overall efficiency of the Boston Police Crime Laboratory's DNA section.

Goal 2: To improve coordination and tracking of cases with other forensic units and investigators

Goal 3: To maintain low DNA casework backlogs and turnaround time.

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation of a Laboratory Information Management System.</i>
Training and Development	
Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding. Will purchase new genetic analyzer with 2011 Backlog funds.</i>
Improve lab standards for evidence storage, case	<i>LIMS system received under 2008 Backlog</i>

file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management. BPD is exploring DIMS options for digital evidence storage.</i>
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Regarding the goals and objectives as stated in the FY10 DNA Backlog application:

The BPD Crime Laboratory continues to work tirelessly towards achieving the goal of maintaining an efficient, high quality lab service. Despite rising levels of violence, budget cuts, and a staff of only four DNA analysts, the lab has been able to address backlogged cases while also quickly returning cases that are of high priority for the BPD. During 2010 and 2011, the City of Boston has seen increases in non-fatal shootings, homicides, and breaking and entering incidents that demand a large amount of forensic attention.

During this reporting period, the backlog increased but the number of samples analyzed per analyst per month actually increased since the last reporting period. These improvements can be attributed both to the ongoing physical improvements in the lab, staff training, and dedication of the analysts. Ongoing training and professional development of Forensic Group staff is coordinated through the section directors and the quality manager of the Forensic Group. Training is traditionally funded through the Coverdell program, but from the FY11 DNA Backlog grant forward, DNA Section trainings will be funded through DNA Backlog grants.

The Crime Lab has maintained a grant funded analyst and forensic technologist as part of the DNA Backlog Reduction program and will continue to fund them on under this award now that FY09 funds have been expended. The newly hired DNA analyst has been an asset thus far and since being hired he has received training in the DNA section, including the completion of six training studies. He has also completed training in evidence intake and storage. The new DNA analyst has also contributed significantly to the ongoing day-to-day operation of the DNA section and has also assisted with laboratory tours of the crime lab. In addition to his trainings, the new DNA analyst has also performed daily, weekly and bi-monthly maintenance on various instruments in the crime lab. During his short time here he has also observed DNA testing in 3 cases and has observed courtroom presentation in 3 cases of evidence in the disciplines of DNA analysis and Criminalistics.

The forensic technician has also been instrumental in the ongoing work of the crime lab. The Forensic Technician was hired on a permanent basis this past March, and a candidate has been selected to replace her. The new forensic technician is slated to start during the next reporting period. The previous forensic technician was signed off to process serology and criminalistics during this reporting period. She worked on 6 cases that included 5 suspect cases and 1 non suspect case. One DNA profile was generated and entered into CODIS and it ended up being a

CODIS hit. During this time period, the forensic technician also performed monthly eyewash safety checks, daily temperature recordings for refrigerators and freezers within the laboratory, calibrated thermometers in the laboratory, performed quality control checks, prepared areas of the laboratory for ISO accreditation and completed laboratory safety training. She also completed the Serology Competency examination and completed and passed the Serology mock case and mock trial.

The LIMS Coordinator hired by the BPD as part of the FY09 grant, has been an integral part in assimilating the LIMS system into BPD. It is our expectation that the LIMS system will be integrated into the Boston Police Department sometime prior to the end of this calendar year. The LIMS system is and will continue to contribute greatly to the goal of improved coordination and tracking of cases across units and investigators.

The Crime Lab will be purchasing new equipment in the next few months that will contribute significantly to their ongoing work. The Crime Lab will also be purchasing a new Genetic Analyzer using FY11 DNA Backlog funds in order to replace a discontinued model.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation</i>

LIMS system.	<i>of a Laboratory Information Management System.</i>
Training and Development	
Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding. Will purchase new genetic analyzer with 2011 Backlog funds.</i>
Improve lab standards for evidence storage, case file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>LIMS system received under 2008 Backlog Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management. BPD is exploring DIMS options for digital evidence storage.</i>

Semi-Annual Progress Report

1. Casework: Authorized for independent casework analysis: November 26, 2012

- 21 cases completed (22 items)
 - (4) Suspect cases
 - (17) No suspect cases
- 0 DNA profiles generated
- Number of phenolphthalein tests performed (10), Number of ABA Hematrace tests performed (1)

2. Quality Assurance:

- Performed daily temperature recording for refrigerators and freezers within the laboratory
- Performed quality control check prior to use on casework for phenolphthalein reagent and ABA Hematrace blood cards used in the laboratory
- Performed yearly NIST thermometer calibrations for thermometers used throughout the laboratory
- Attended annual internal ethics training

3. Casework Training:

- Completed required reading selections
- Completed several training studies, including: phenolphthalein specificity and sensitivity studies, alternate light source study and AP Spot specificity and sensitivity studies
- Completed oral competencies for laboratory operations and evidence receiving
 - Authorized to perform evidence receiving: September 19, 2012
- Completed bloodstain collection kit workshops (5 workshops)
- Observed evidence description examinations with trained analysts (10)
- Performed side by side physical evidence descriptions with trained analysts (33 exams)
 - (21) clothing items
 - (3) knives
 - (9) miscellaneous items
- Clothing, weapon and miscellaneous items workshops (6)- perform examination on the item, photograph the item, prepare case file, collect samples that would be sent for DNA analysis or Trace Evidence analysis, and write report
- Observed and performed side by side preparations of blood swatches from the Office of Chief Medical Examiner (7 swatches)
 - Authorized to conduct OCME blood swatch preparation: October 30, 2012
- Completed mock case and oral competency for bloodstain collection kit processing and physical evidence descriptions
 - Authorized for independent casework analysis: November 26, 2012
- Completed 2012 Internal Serology Proficiency Examination
- Provided training to new detectives on the services provided by the Crime Laboratory and how the laboratory functions
- Observed and assisted with the mounting of evidence for courtroom presentation
- Observed testimony in criminalistics and DNA
- Studied for the American Board of Criminalistics- Comprehensive Criminalistics Examination
 - Examination administered December 14, 2012

4 Continuing Education/Professional Development

- Completed Master of Science degree in Biomedical Forensic Sciences from Boston University School of Medicine (September 2012)
- Passed the American Board of Criminalistics-Comprehensive Criminalistics Examination (ABC) to become an Affiliate member
- Applied for membership with the American Academy of Forensic Sciences (AAFS)

Read current journal articles and discussed in monthly criminalistics section meetings

Semi-Annual Progress Report:

1. Casework

- 0 cases completed (0 items)
- 0 profiles generated
- 0 profiles entered into CODIS
- 0 CODIS Hits (0 Case to Case, 0 Case to Offender)

2. Training

- Completed seventeen (17) DNA Training Studies
 - TS-4 AIL: DNA Mixture Study
 - TS-5 AIL: DNA Standard Specimens Study
 - TS-5A AIL: Handler DNA Study
 - TS-5B AIL: Handler DNA Study
 - TS-5C AIL: Handler DNA Study
 - TS-6 AIL: Sexual Assault Study
 - TS-7 AIL: Past Proficiency Test Study
 - TS-8 AIL: CODIS Other Batch Study – Cigarette Butts
 - TS-9 AIL: CODIS Other Batch Study - RBS
 - TS-10 AIL: CODIS Sexual Assault Batch Study
 - TS-11 AIL: Envelope Stand-alone Study
 - TS-12 AIL: CODIS Other Batch – Hairs
 - TS-13 AIL: Sexual Assault Stand-alone Study - Amylase
 - TS-14 AIL: CODIS Other Batch Study
 - TS-15 AIL: Sexual Assault Stand-alone Study – Vaginal Swab and Amylase
 - TS-16 AIL: CODIS Other Batch – Cigarette Butts
 - TS-19 AIL: Stand-alone Study - Paternity
- One (1) DNA Training Studies in-progress
 - TS-17 AIL: Stand-alone Study – Hairs and Amylase
- Observed DNA testing
- Observed Criminalistics courtroom testimony
- Observed DNA courtroom testimony
- Received Webinar training in courtroom testimony

3. Quality Assurance

- Performed daily and weekly maintenance tasks for 3130xl instrument
- Assisted with bi-monthly maintenance tasks for 3130xl instrument
- Performed daily temperature monitoring and recording for refrigerators and freezers within the DNA section
- Performed QC of Quantifiler Duo, Identifiler and Identifiler Plus Kits
- Assisted in Chelex-EZ1 Studies which implemented Chelex extractions on questioned RBS stains
- Assisted in Identifiler Plus Validation studies and Mixture Interpretations
- Assisted in calibration of two (2) ABI 9700 thermal cycler
- Assisted in calibration of ABI 7500 rtPCR
- Assisted with autoclaving of tubes used in DNA testing
- Assisted in reagent preparation used in DNA testing

- Assisted in evidence intake
- Attended annual Ethics training

4. DNA Lab Duties

- Assisted with MBTA and new Detectives training

During this reporting period:	July – Dec 31 2012
Number of cases analyzed	0
Number of forensic DNA profiles entered into CODIS	0
Number of CODIS Hits	0

Semi-Annual Progress Report:

Time Period: July 1, 2012 – December 31, 2012.

Full-time Criminalist (DNA Backlog Reduction Grant)

Continued training in the DNA section, including completion of seventeen training studies in this semi-annual timeframe. Observed DNA testing. Observed courtroom presentation of evidence in the disciplines of: Criminalistics, Serology and DNA analysis. Assisted with MBTA and new Detectives training. Contributed to the ongoing day-to-day operation of the DNA section, including the following ongoing essential Quality Control tasks. Performed daily and weekly maintenance tasks for the ABI 3130xl instrument. Assisted with bi-monthly maintenance tasks for the ABI 3130xl instrument. Performed daily temperature monitoring and recording for refrigerators and freezers within the DNA section. Performed QC of Quantifiler Duo, Identifiler and Identifiler Plus Kits. Assisted in Chelex-EZ1 Studies which implemented the use of Chelex on questioned RBS and amylase stains. Assisted in Identifiler Plus Validation studies and Mixture Interpretations. Assisted in the calibration of two of the ABI 9700 thermal cyclers. Assisted in calibration of ABI 7500 rtPCR. Assisted with autoclaving of tubes used in DNA testing. Assisted in reagent preparation used in DNA testing. Assisted in evidence intake. Attended annual Ethics training.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation of a Laboratory Information Management System.</i>
Training and Development	
Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding. Will purchase</i>

	<i>new genetic analyzer with 2011 Backlog funds.</i>
Improve lab standards for evidence storage, case file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>LIMS system received under 2008 Backlog Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management. BPD is exploring DIMS options for digital evidence storage.</i>

Semi-Annual Progress Report

FY '10 DNA Backlog Reduction Grant

Time Period: January 1, 2013 through April 21, 2013

FY10 Grant funding expended April 21, 2013

1. Casework:

- 41 cases completed (63 items)
 - (19) Suspect cases
 - (22) No suspect cases
- 0 DNA profiles generated
- Number of phenolphthalein tests performed (73), Number of ABA Hematrace tests performed (33)

2. Quality Assurance:

- Performed daily temperature recording for refrigerators and freezers within the laboratory
- Performed quality control check prior to use on casework for phenolphthalein reagent and ABA Hematrace blood cards used in the laboratory
- Performed yearly NIST thermometer calibrations for thermometers used throughout the laboratory
- Inventoried and updated equipment list for equipment within the laboratory

3. Casework Training:

- Provided training to detectives on the services provided by the Crime Laboratory and how the laboratory functions
- Observed and assisted with showing evidence to an ADA and Detective
- Observed testimony in criminalistics and DNA as well as a Cold Case testimony

4 Continuing Education/Professional Development

- Became a Trainee Affiliate member of the American Academy of Forensic Sciences (AAFS)
- Read current journal articles and discussed in monthly criminalistics section meetings
- Attended "Future of Forensic DNA Testing" lecture provided by John Butler at Northeastern University

Semi-Annual Progress Report:

FY '10 DNA Backlog Reduction Grant

Time Period: January 1 through April 21, 2013

During this reporting period:	Jan 1 – April 21, 2013
Number of cases analyzed	41
Number of forensic DNA profiles entered into CODIS	0
Number of CODIS Hits	0

Summary:

Full-time Criminalist I (DNA Backlog Reduction Grant)

Became a Trainee Affiliate member of the American Academy of Forensic Sciences (AAFS), read current journal articles and discussed in monthly criminalistics section meetings. Provided training to detectives on the services provided by the Crime Laboratory and how to properly collect biological evidence samples, and observed and assisted in showing evidence to ADA's and Detectives. Participated in the Quality Assurance Program by performing duties including: recording daily temperature readings for essential refrigerators and freezers, servicing thermometers for refrigerators and freezers within the laboratory, performing quality control on phenolphthalein and ABA Hematrace cards and preparing reagents for use in casework. Biological screening was performed on a variety of cases including breaking and entering, larceny and assault and battery. Several items were submitted to the DNA Section for analysis and are pending analysis.

Semi-Annual Progress Report

FY '10 DNA Backlog Reduction Grant

Time Period: January 1 through April 21, 2013

FY10 Grant funding expended April 21, 2013

1. Casework

- 0 cases completed (0 items)
- 0 profiles generated
- 0 profiles entered into CODIS
- 0 CODIS Hits (0 Case to Case, 0 Case to Offender)
- Assisted with Evidence Intake
- Assisted with Boston Marathon Attack Investigation evidence handling

2. Training

- Eleven (11) DNA Training Studies performed
 - TS-18AIL: Stand-alone Study – Hair
 - TS-20AIL: Stand-alone Study – Sexual Assault
 - TS-21AIL: Stand-alone Study – Sexual Assault

- TS-22AIL: DNA Interpretation
- TS-23AIL: DNA Interpretation
- TS-24AIL: DNA Interpretation
- TS-25AIL: DNA Interpretation
- TS-26AIL: DNA Interpretation
- TS-27AIL: DNA Interpretation
- TS-28AIL: DNA Interpretation
- TS-29AIL: DNA Interpretation
- Observed DNA courtroom testimony

3. Quality Assurance

- Performed daily and weekly maintenance tasks for 3130xl instrument
- Assisted with bi-monthly maintenance tasks for 3130xl instrument
- Performed daily temperature monitoring and recording for refrigerators and freezers within the DNA section
- Performed Performance Check for EZ1 BioRobots
- Performed Performance Check for 3130xl
- Performed QC of Identifiler Plus and Quantifiler Duo kit
- Assisted in calibration of two (2) ABI 9700 thermal cyclers
- Assisted in calibration of ABI 7500 Real Time PCR Instrument
- Assisted with autoclaving of tubes used in DNA testing
- Performed Internal Audit for Criminalistics and Trace Evidence as part of Audit Team

4 Continuing Education/Professional Development

- Attended Statistics and Population Genetics in Forensic DNA Analysis
- Attended NISTR Mixture Interpretation Workshop
- Read current journal articles and discussed in Crime Laboratory and DNA section meetings
- Attended “Exciting Applications of Forensic DNA” and “Future of Forensic DNA Testing” lectures (Saferstein Lecture Series) provided by John Butler at Northeastern University
- Assisted with new Detectives training

During this reporting period:	Jan 1 – April 21, 2013
Number of cases analyzed	0
Number of forensic DNA profiles entered into CODIS	0
Number of CODIS Hits	0

Semi-Annual Progress Report: Ariel Lising

Time Period: January 1 through April 21, 2013

Full-time Criminalist (DNA Backlog Reduction Grant)

Continued training in the DNA section, including completion of eleven training studies in this semi-annual timeframe. Observed courtroom presentation of evidence in the discipline of DNA analysis. Performed many essential Quality Assurance tasks including: Performing daily and weekly maintenance tasks for 3130xl instrument. Bi-monthly maintenance tasks for 3130xl instrument, Daily temperature monitoring and recording for refrigerators and freezers within the DNA section, Performing the Performance Check for EZ1 BioRobots and for 3130xl, QC of Identifiler Plus and Quantifiler Duo kits, Calibration of two (2) ABI 9700 thermal cyclers, Calibration of ABI 7500 Real Time PCR Instrument. Assisted with autoclaving of tubes used in DNA testing. Conducted Internal Audit for Criminalistics and Trace Evidence as part of the Audit Teams. Fulfilled continuing education requirements by attendance at Statistics and Population Genetics in Forensic DNA Analysis course, Attendance at two (2) Saferstein lectures by Dr. Butler at Northeastern University, and Attendance at the NIST Mixture Interpretation Workshop. Assisted with Evidence Intake. Assisted with Boston Marathon Attack Investigation evidence handling. Assisted with new Detectives training.

LIMS Management

The full implementation of the Laboratory Information Management System was delayed due to the vendor's limited resources available to be directed towards the BPD's installation. This reflects the popularity of the product and the number of agencies adopting it.

The LIMS Coordinator and vendor have developed additional capabilities for the LIMS to meet the needs of the BPD forensic department's complex workflow. It was decided by the vendor and coordinator that the BPD should transition to a newer web based version of the LIMS rather than the application based solution that they started with. The decision allows for a transition requiring little additional work while allowing multiplatform compatibility such as running the software on tablets.

During the customization there have been multiple rounds of testing, corrections, changes, and additions. The coordinator and LIMS vendor have spent considerable time working with the vendors of the current evidence tracking system and future Records Management System to develop interfaces to allow for seamless integration. The vendor will soon be on site to begin training the forensic division staff.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation of a Laboratory Information Management System.</i>
Training and Development	
Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding. Will purchase</i>

	<i>new genetic analyzer with 2011 Backlog funds.</i>
Improve lab standards for evidence storage, case file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>LIMS system received under 2008 Backlog Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management. BPD is exploring DIMS options for digital evidence storage.</i>

*No work was performed under the funding of the FY10 Grant in this time period due to the FY10 Grant funding having been expended on April 21, 2013.

FINAL REPORT:

Objective	Status
Physical Space	
Develop physical workspace to ensure efficiency and increased productivity – increase bench space and equipment space.	<i>Completed with NIJ Capacity Enhancement funds.</i>
Reduce analysis turnaround time by reducing downtime/wait-time at PCR amplification step.	<i>Purchased thermalcyclers through 2007 NIJ Backlog Reduction Grant; Ongoing staffing support.</i>
Staffing Requirements	
Augment current DNA staff by maintaining a contracted DNA position to allow for assistance in DNA analysis and backlog reduction	<i>Since 2004, NIJ Backlog Reduction grants have supported this contract analyst towards the accomplishment of this objective and the overall goal of reducing turnaround times and backlogs</i>
Augment current DNA staffing by maintaining a contracted Forensic Technician position to screen cases for DNA analysis and to screen cold cases for DNA	<i>Since 2005, NIJ Backlog Reduction grants have supported contract analyst under this objective and the overall goal of reducing turnaround times.</i>
Augment evidence management and tracking by hiring a contracted LIMS Program Coordinator position to manage, maintain, and coordinate the LIMS system.	<i>Since 2008 & 2009 the NIJ Backlog Reduction grants have supported the purchase and installation of a Laboratory Information Management System.</i>
Training and Development	

Ongoing training & professional development.	<i>Ongoing with grant funding (Coverdell) and limited departmental funds.</i>
Equipment and Technology	
Maintain Laboratory supplies to keep DNA lab functioning at optimal levels of efficiency.	<i>NIJ grant funding to assist in maintaining much needed supplies to augment DNA case processing and screening.</i>
Meet optimal equipment standards; Increase equipment to maximize casework processing and reduce overtime.	<i>Genetic analyzer purchased with 2005 NIJ Backlog funds; Thermalcyclers and evidence storage freezer purchased with 2007 NIJ funding. Will purchase new genetic analyzer with 2011 Backlog funds.</i>
Improve lab standards for evidence storage, case file management, improved case coordination with other forensic units and detectives, and management integrity.	<i>LIMS system received under 2008 Backlog Reduction Grant & a portion of the 2009 Backlog Reduction Grant to ensure improved evidence tracking and case management. BPD is exploring DIMS options for digital evidence storage.</i>

The BPD Crime Laboratory continues to work tirelessly towards achieving the goal of maintaining an efficient, high quality lab service. Despite rising levels of violence, budget cuts, and a staff of only four DNA analysts, the lab has been able to address backlogged cases while also quickly returning cases that are of high priority for the BPD.

Under the FY10 grant, during the period from October 2010 through April 2013 (FY10 funds expended in April 2013), the number of backlogged forensic DNA cases decreased and for the final six months of the reporting period, the number of samples analyzed per analyst per month averaged a robust 18. These improvements can be attributed both to the ongoing physical improvements in the lab, staff training, and dedication of the analysts. Ongoing training and professional development of Forensic Group staff is coordinated through the section directors and the quality manager of the Forensic Group. Training is traditionally funded through the Coverdell program, but from the FY11 DNA Backlog grant forward, DNA Section trainings will be funded through DNA Backlog grants.

Under the FY10 grant funding, 125 cases were analyzed and delivered to the requesting agency using funding provided for overtime and/or supplies to work cases, and outsourcing under this award.

The FY10 grant funded personnel of 1 forensic technologist and 1 LIMS Project Coordinator which were previously funded under the FY09 grant. During this time period a new DNA analyst was hired and the forensic technologist position was replaced by a new employee and both were funded by the FY10 grant.

The newly hired DNA analyst has been an asset thus far and was on the verge of completing his training when transferring from the FY10 grant to a new grant. He has also completed training in evidence intake and storage. The new DNA analyst has also contributed significantly to the ongoing day-to-day operation of the DNA section and has also assisted with laboratory tours of the crime lab. In addition to his trainings, the new DNA analyst has also performed daily, weekly and bi-monthly maintenance on various instruments in the crime lab. During his time here he has also observed DNA testing in numerous cases and has observed courtroom presentation in the disciplines of DNA analysis and Criminalistics.

The Forensic Technician has also been instrumental in the ongoing work of the crime lab. The Forensic Technician was hired on a permanent basis in March 2012, and a new Forensic Technician has replaced her. The previous forensic technician was signed off to process serology and criminalistics during this reporting period. She worked on 6 cases that included 5 suspect cases and 1 non suspect case under the FY10 grant. One DNA profile was generated and entered into CODIS and it ended up being a CODIS hit. During this time period, the Forensic Technician also performed monthly eyewash safety checks, daily temperature recordings for refrigerators and freezers within the laboratory, calibrated thermometers in the laboratory, performed quality control checks, prepared areas of the laboratory for ISO accreditation and completed laboratory safety training. She also completed the Serology Competency examination and completed and passed the Serology mock case and mock trial.

The new Forensic Technician completed training and began case work during this reporting period under the FY10 grant. She has worked 62 cases that included 23 suspect cases and 39 no suspect cases. During this time period, the new Forensic Technician also performed monthly eyewash safety checks, daily temperature recordings for refrigerators and freezers within the laboratory, calibrated thermometers in the laboratory, performed quality control checks, prepared areas of the laboratory for ISO accreditation and completed laboratory safety training. She also observed courtroom presentation in the disciplines of DNA analysis and Criminalistics and became a Trainee Affiliate member of the American Academy of Forensic Sciences (AAFS).

The LIMS Coordinator hired by the BPD as part of the FY09 grant, has been an integral part in assimilating the LIMS system into BPD. It is our expectation that the LIMS system will be integrated into the Boston Police Department sometime prior to the end of this calendar year. The LIMS system is and will continue to contribute greatly to the goal of improved coordination and tracking of cases across units and investigators.

The full implementation of the Laboratory Information Management System was delayed due to the vendor's limited resources available to be directed towards the BPD's installation. This reflects the popularity of the product and the number of agencies adopting it. The LIMS Coordinator and vendor have developed additional capabilities for the LIMS to meet the needs of the BPD forensic department's complex workflow. It was decided by the vendor and coordinator that the BPD should transition to a newer web based version of the LIMS rather than the application based solution that they started with. The decision allows for a transition requiring little additional work while allowing multiplatform compatibility such as running the software on

tablets. During the customization there have been multiple rounds of testing, corrections, changes, and additions. The coordinator and LIMS vendor have spent considerable time working with the vendors of the current evidence tracking system and future Records Management System to develop interfaces to allow for seamless integration. The vendor will soon be on site to begin training the forensic division staff.

The Crime Lab is in good shape as far as equipment, but will purchase a new Genetic Analyzer using anticipated FY11 DNA Backlog funds in order to replace a discontinued model.

FY10 Recipient Name: Anne Arundel County, Maryland

Award Number: 2010-DN-BX-K126

Award Amount: \$135,682

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Increase productivity and efficiency to reduce existing backlog thereby decreasing future case turnaround times as well by maintaining grant-funded staffing (Biol/DNA Analyst). The grant-funded DNA analyst is currently performing independent casework and provides a significant contribution towards backlog reduction for the unit. This grant-funded position is vital to the continuing work flow of the Biology Unit.

Support increasing productivity and efficiency of the Forensic Biology Unit to reduce the existing case backlog thereby decreasing the overall turnaround times for newly submitted Forensic Biology cases through equipment purchases that will enhance sample management capacity and overall Unit operations.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Partial equipment purchases (centrifuge, UPS for thermalcyclers, drybath incubator) have been completed and these items are successfully in use on casework at this time.

Existing Biol/DNA contractor position will transition to this funding source (target date Sept 2011) from current alternate funding source. Validation/troubleshooting and follow-up maintenance / configuration issues of new DNA Module software recently added to LIMS is to be addressed via extension of the LIMS Administrator position (rehire contractor, prior funding expired). Purchase order entry for hourly salary costs (no benefits) is pending at this time (target start date Mar 2010 includes anticipated PO approval process).

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

LIMS Administrator position has been cancelled (contract/individual no longer available, no intent to renew this contract). GAN draft pending to reallocate funds. Biology analyst position is on target to begin scheduled salary/fringe expenditures under this award in Oct 2011 to retain this existing position. Two external hard drives were purchased to allow regular efficient electronic backups of analytical instrument data for casework and quality assurance/control work to replace individual CD prep and storage. Another UPS (uninterruptable power source) was purchased for the Lab server due to numerous power outages causing server malfunctions. Laptop batteries were purchased to replace existing dead/weak ones. These items were all purchased in this reporting period and are in use. Backlog stats provided in the Performance

Metrics reflect Lab's recent change to Fed guideline defining "backlog" as cases still pending analysis at 30+ days since date of submission to the Laboratory. The Lab's prior reporting period defined backlog from the date of submission.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Existing Biology/DNA contractor position worked 480 hours for this reporting period. This grant funded analyst continues to perform independent casework analysis and provides expert witness testimony. This position is critical to continue backlog reduction efforts and to maintain a stable case output for the Biology/DNA Unit.

Due to changes in personnel and a new Crime Lab Director, any remaining equipment purchases are being re-evaluated and are pending final approval from the Chain of Command. It is expected that the remaining equipment will be approved and purchased in the first quarter of 2012. It has been determined that the vortexer, micropipettes, and OCR scanner will not be purchased at this time. Currently, any surplus funding for equipment is being considered for the following: a pH meter for the Biology Unit serology lab for reagent preparation, 4 laptops for laboratory staff use (in-house, as well as for outside assignments), 2 shredders (for confidential laboratory documents), and a laser color printer for use in the DNA PCR laboratory.

A GAN will be submitted requesting an extension to totally expend personnel categories.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

GOAL: Increase productivity and efficiency to reduce existing backlog thereby decreasing future case turnaround times as well by maintaining grant-funded staffing (Biol/DNA Analyst). The grant-funded DNA analyst is currently performing independent casework and provides a significant contribution towards backlog reduction for the unit. This grant-funded position is vital to the continuing work flow of the Biology Unit.

The contractual DNA Analyst's salary and benefits were funded for 720 hours during this reporting period. On 04/26/12 Ms. Hayes was hired as a county funded DNA Chemist for a position that became vacant with the promotion of Annette Box to the position of Crime Lab Director. The intention was to fill this vacancy with another analyst but the county's hiring freeze (even for contractual workers) has delayed this event. Funding is available in the FY 11 funding to continue this position. A GAN will be created to move this remaining personnel funding to another category and begin the new hire with FY 11 funding

GOAL: Support increasing productivity and efficiency of the Forensic Biology Unit to reduce the existing case backlog thereby decreasing the overall turnaround times for newly submitted Forensic Biology cases through equipment purchases that will enhance sample management capacity and overall Unit operations.

A transition in the Crime Lab director and other administration issues at the Police Department have slowed the pace of purchasing the approved equipment and creating a GAN to request approval to purchase alternate equipment than approved in the original budget submission. A GAN is being drafted at this time to address the remaining funding in this grant and move forward with spending the remaining items in the equipment category.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

GOAL: Increase productivity and efficiency to reduce existing backlog thereby decreasing future case turnaround times as well by maintaining grant-funded staffing (Biol/DNA Analyst). The grant-funded DNA analyst is currently performing independent casework and provides a

significant contribution towards backlog reduction for the unit. This grant-funded position is vital to the continuing work flow of the Biology Unit.

The contractual DNA Analyst was hired as a county funded DNA Chemist on 04/26/12.

Therefore, there were no salary and benefits funded during this reporting period. The intention was to fill this vacancy with another analyst but the county's hiring freeze (even for contractual workers) has delayed this event. A position exemption request for this position is currently pending. Funding is available in the FY 11 funding to continue this position. A GAN was approved 9/4/12 to move this remaining personnel funding to another category and begin the new hire with FY 11 funding

GOAL: Support increasing productivity and efficiency of the Forensic Biology Unit to reduce the existing case backlog thereby decreasing the overall turnaround times for newly submitted Forensic Biology cases through equipment purchases that will enhance sample management capacity and overall Unit operations.

Two HP printers were purchased to replace aging printers (one in the DNA PCR lab and one for administrative purposes). These printers are more efficient in printing data and administrative documents.

Micropipette tips were purchased and are being used in the DNA/Serology.

Two Shredders were purchased and are being used in the laboratory to shred sensitive and confidential documentation.

A new pH Meter was purchased to replace an antiquated pH meter and is being used to make reagents.

The IFB bid is being prepared and will go to vendors in early January for the DNA extraction robot. Quotes are being finalized with Life Technologies for the order for the Genemapper software and upgrade purchase. After these two expensive items are purchased early in the next quarter, the remaining funding will be expended.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

GOAL: Increase productivity and efficiency to reduce existing backlog thereby decreasing future case turnaround times as well by maintaining grant-funded staffing (Biol/DNA Analyst). The grant-funded DNA analyst is currently performing independent casework and provides a significant contribution towards backlog reduction for the unit. This grant-funded position is vital to the continuing work flow of the Biology Unit.

The contractual DNA Analyst was hired as a county funded DNA Chemist on 04/26/12.

Therefore, there were no salary and benefits funded during this reporting period. The intention was to fill this vacancy with another analyst but the county's hiring freeze (even for contractual workers) has delayed this event. Funding is available in the FY 11 funding to continue this position. A GAN was approved 9/4/12 to move this remaining personnel funding to another category and begin the new hire with FY 11 funding

GOAL: Support increasing productivity and efficiency of the Forensic Biology Unit to reduce the existing case backlog thereby decreasing the overall turnaround times for newly submitted Forensic Biology cases through equipment purchases that will enhance sample management capacity and overall Unit operations.

Three Category III-3 Uninterruptible Laboratory Power Sources (UPSs) were purchased from Franek Technologies, Inc. Crucial for maintaining the instruments on-line in the event of a power interruption.

One refrigerator/freezer (explosion proof) from Fisher Scientific was purchased for use in the DNA PCR room.

A second Qiagen EZ1 Advanced XL extraction robot was purchased for the DNA unit. This will assist in eliminating the bottleneck seen in the extraction phase by allowing the extraction of a greater number of samples per extraction procedure, as well as have two instruments available to DNA analysts.

The remaining balance of \$8,732.28 was for the Genemapper upgrade with computer. This purchase was not made due to impossible purchasing issues with Life Technologies. AACoPD purchasing and Life Technologies could not agree on terms and legal wording of contract. The contract was held up at the Office of Law. This purchase was started in October 2011, however, the purchasing lag caused end date of grant to occur without correct appropriation and encumbrment of funds.

FINAL REPORT:

GOAL: Increase productivity and efficiency to reduce existing backlog thereby decreasing future case turnaround times as well by maintaining grant-funded staffing (Biol/DNA Analyst). The grant-funded DNA analyst is currently performing independent casework and provides a significant contribution towards backlog reduction for the unit. This grant-funded position is vital to the continuing work flow of the Biology Unit.

Existing Biol/DNA contractor position transitioned to this funding source (target date Sept 2011) from the previous alternate funding source.

Validation/troubleshooting and follow-up maintenance/configuration issues of new DNA Module software recently added to LIMS was to be addressed via extension of the LIMS Administrator position (rehire contractor, prior funding expired). Purchase order entry for hourly salary costs (no benefits) was pending with a target start date Mar 2010 (includes anticipated PO approval process). However, the LIMS Administrator position was cancelled (contract/individual no longer available, no intent to renew this contract). GAN submitted to reallocate funds. Biology analyst position was on target to begin scheduled salary/fringe expenditures under this award in Oct 2011 to retain this existing position.

Existing Biology/DNA contractor position (Ashley Hayes) worked 480 hours for the 3rd reporting period. This grant funded analyst continued to perform independent casework analysis and provided expert witness testimony. This position is critical to continue backlog reduction efforts and to maintain a stable case output for the Biology/DNA Unit.

The contractual DNA Analyst's salary and benefits were funded for 720 hours during the 4th reporting period. On 04/26/12, she was hired as a county funded DNA Chemist for a position that became vacant with the promotion of Annette Box to the position of Crime Lab Director. The intention was to fill this vacancy with another analyst but the county's hiring freeze (even for contractual workers) had delayed this event. Funding was available in the FY 11 funding to continue this position. A GAN was created to move this remaining personnel funding to another category and begin the new hire with FY 11 funding

From the 5th reporting period on, there were no salary and benefits funded due to the contractual DNA Analyst being hired as a county funded DNA Chemist on 04/26/12. Funding was available in the FY 11 funding to continue this position. A GAN was approved 9/4/12 to move this remaining personnel funding to another category and begin the new hire with FY 11 funding

GOAL: Support increasing productivity and efficiency of the Forensic Biology Unit to reduce the existing case backlog thereby decreasing the overall turnaround times for newly submitted

Forensic Biology cases through equipment purchases that will enhance sample management capacity and overall Unit operations.

A centrifuge, UPS for thermal cyclers, and dry bath incubator have been purchased and these items are successfully in use on casework at this time.

Two external hard drives were purchased to allow regular efficient electronic backups of analytical instrument data for casework and quality assurance/control work to replace individual CD prep and storage.

Another UPS (uninterruptable power source) was purchased for the Lab server due to numerous power outages causing server malfunctions. Laptop batteries were purchased to replace existing dead/weak ones. All these items were purchased and are currently in use.

Backlog stats provided in the Performance Metrics reflect Lab's recent change to Fed guideline defining "backlog" as cases still pending analysis at 30+ days since date of submission to the Laboratory. The Lab's prior reporting period defined backlog from the date of submission. During the award period, there were extensive changes in personnel and a new Crime Lab Director, therefore equipment purchases were re-evaluated. It was determined that the vortexer, micropipettes, and OCR scanner will not be purchased during this award period. Any surplus funding for equipment was being considered for the following: a pH meter for the Biology Unit serology lab for reagent preparation, 4 laptops for laboratory staff use (in-house, as well as for outside assignments), 2 shredders (for confidential laboratory documents), and a laser color printer for use in the DNA PCR laboratory. A GAN was submitted requesting an extension to totally expend personnel categories.

Two HP printers were purchased to replace aging printers (one in the DNA PCR lab and one for administrative purposes). These printers are more efficient in printing data and administrative documents.

Micropipette tips were purchased and are being used in the DNA/Serology.

Two Shredders were purchased and are being used in the laboratory to shred sensitive and confidential documentation.

A new pH Meter was purchased to replace an antiquated pH meter and is being used to make reagents.

It was determined that the 4 laptops for laboratory staff use (to replace aging/outdated laptops) will not occur during this award period.

Three Category III-3 Uninterruptible Laboratory Power Sources (UPSs) were purchased from Franek Technologies, Inc. Crucial for maintaining the instruments on-line in the event of power interruption.

One refrigerator/freezer (explosion proof) from Fisher Scientific was purchased for use in the DNA PCR room.

A second Qiagen EZ1 Advanced XL extraction robot was purchased for the DNA unit. This will assist in eliminating the bottleneck seen in the extraction phase by allowing the extraction of a greater number of samples per extraction procedure, as well as have two instruments available to DNA analysts.

The remaining balance of \$8,732.28 was for the Genemapper upgrade with computer. This purchase was not made due to impossible purchasing issues with Life Technologies. AACoPD purchasing and Life Technologies could not agree on terms and legal wording of contract. The contract was held up at the Office of Law. This purchase was started in October 2011, however, the purchasing lag caused end date of grant to occur without correct appropriation and encumbrment of funds.

FY10 Recipient Name: Maryland State Police

Award Number: 2010-DN-BX-K102

Award Amount: \$359,687

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal – Reduce the DNA casework backlog, reduce forensic DNA sample turnaround time, and increase throughput of the DNA laboratory within the Forensic Biology Section.

Objective #1 – Eliminate the current DNA casework backlog.

Objective #2 – Continue to build infrastructure through knowledge and technology.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal – During the reporting period the DNA casework backlog decreased, and the turnaround time decreased. The samples analyzed per analyst remained constant. (See performance measures)

Objective #1 – During the reporting period a purchase order was opened for the outsourcing to be performed under this grant and a GAN was issued that removed the special conditions of the grant. No outsourcing occurred.

Objective #2 – During the reporting period 1 forensic scientist traveled to the CODIS Meeting in Salt Lake City, Utah.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal – During the reporting period the DNA casework backlog decreased, and the turnaround time decreased while the samples analyzed per analyst increased. (See performance measures)

Objective #1 – During the reporting period 54 cases were sent to the contract lab for analysis of which 53 cases were direct outsourced from the submitting agency eliminating the need to come into the MSP-FSD laboratory and be added to the MSP-FSD backlog.

Objective #2 – During the reporting period 2 forensic scientists attended the AAFS meeting in Chicago, Illinois; 2 forensic scientists attended the Bode East Meeting in Amelia Island, Florida; and 1 forensic scientist and 1 lab tech attended the MAAFS meeting in Virginia Beach, Virginia.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal – During the reporting period the DNA casework backlog and the turnaround time both slightly increased, but remained well below the starting metrics. The samples analyzed per analyst slightly decreased, but remained above the starting metric. (See performance measures)

Objective #1 – During the reporting period 133 cases were sent to the contract lab for analysis of which 77 cases were direct outsourced from the submitting agency eliminating the need to come into the MSP-FSD laboratory and be added to the MSP-FSD backlog. Also during the reporting period the Biology staff worked 106 hours of overtime reviewing the outsourced casework.

Objective #2 – During the reporting period 1 forensic scientist attended the Association of Forensic DNA Analysts and Administrators meeting in San Antonio, Texas; 2 forensic scientists attended the Green Mountain DNA Conference in Burlington, Vermont; and 1 forensic scientist attended the International Symposium on Human Identification in National Harbor, Maryland. Also during the reporting period 3 additional microscopes and 1 additional thermal cycler were purchased to minimize bottlenecks in the laboratory. Lastly, during the reporting period 18 new computers were purchased to replace the existing supply that was five years old.

PROGRESS REPORT 4: January 1, 2012 – March 31, 2012

Goal – During the reporting period the DNA casework backlog and the turnaround time both decreased. The samples analyzed per analyst significantly increased. (See performance measures)

Objective #1 – During the reporting period 13 cases were sent to the contract lab for analysis and all 13 cases were direct outsourced from the submitting agency eliminating the need to come into the MSP-FSD laboratory and be added to the MSP-FSD backlog. Also during the reporting period the Biology staff worked 101.5 hours of overtime reviewing the outsourced casework.

Objective #2 – During the reporting period 1 additional microscope was purchased to minimize bottlenecks in the laboratory. Furthermore, ABBYY FlexiCapture Software was purchased to automate the data entry associated with DNA database sample information cards that accompany the submission of DNA database samples.

FINAL REPORT:

Goal – *Reduce the DNA casework backlog, reduce forensic DNA sample turnaround time, and increase throughput of the DNA laboratory within the Forensic Biology Section.* The grant accomplished all three prongs of the goal. First, the DNA casework backlog was reduced 52% from a starting point of 153 cases to an ending point of 73 cases. Second, the forensic DNA sample turn around time was reduced 23% from a starting point of 202 days to an ending point of 156 days. Third, the throughput of the DNA laboratory was increased 64% from a starting point of 22 samples analyzed per analyst per month to an ending point of 36 samples analyzed per analyst per month.

Objective #1 – *Eliminate the current DNA casework backlog.*

During the grant period 200 cases were sent to the contract lab for analysis of which 143 cases were direct outsourced from the submitting agency eliminating the need to come into the MSP-FSD laboratory and be added to the MSP-FSD backlog. Also during the grant period the Biology staff worked 207.5 hours of overtime reviewing the outsourced casework.

Objective #2 – *Continue to build infrastructure through knowledge and technology.*

During the grant period 11 analysts and technicians participated in continuing education funded by this grant. Also, equipment purchased with funds from this grant included 4 microscopes to accommodate additional staff, 1 thermal cycler to accommodate increased in-

house analysis, and 18 desktop computers to replace existing workstations that had exceeded their recommended lifespan.

FY10 Recipient Name: Baltimore County, Maryland

Award Number: 2010-DN-BX-K072

Award Amount: \$228,266

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

1. Goal 1 - To increase capacity of DNA analysis with the purchase of automated equipment.
2. Goal 2 - To increase the efficiency of DNA analysis by replacing aging equipment and maximizing the use of the limited laboratory space.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

1. Goal 1 - This goal has not been achieved to date. The request for purchase of the Qiacube robot has not been made yet. The validation of the 3130s and Identifiler is the priority before validating the robots and ordering the additional robot. Although progress has been made in our procurement process to award the validation project, the award has yet to be made.

2. Goal 2 - This goal has not been achieved to date. The lateral filing cabinets were received and placed in use in October 2010. This has made the storage of case files more efficient by maximizing the use of space.

We have lost 1 of 3 DNA analysts due to a resignation since this proposal was submitted, and we already had one (1) existing analyst vacancy. We are in the process of scheduling interviews to fill our two (2) vacancies.

Little progress has been made on moving forward with this grant as we have been waiting more than a year for the award to be made for outsourcing the genetic analyzer 3130 and Identifiler kit validation. All subsequent grant goals are predicated on completing this validation and switching the DNA analysis system currently in place.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - The Qiacube has been purchased and set up. It has not yet been validated for casework. Validation of the robots was dependent on completing the 3130 and Identifiler validations. The on-site validation tests for Quant Duo, the 3130s and Identifiler Plus were completed in June. We are awaiting data analysis and teachback for the quantitation and STR kit implementation before validating the robots for casework.

Goal 2 - The installation of the data jacks and network wiring for the Biology Unit were approved. We are in the process of scheduling the installation. The centrifuges were ordered and we are awaiting the second half of the shipment.

The Biology Unit has lost 1 of 3 DNA analysts due to a resignation. Despite the fact that the turn around time has increased 50.2% since the last reporting period and has increased overall by 65.0% since the beginning of the award period, the number of DNA items analyzed per analyst has increased 26.3% since the beginning of the

award period. One of two vacancies will be filled this fall. We are in the process of scheduling interviews to fill our remaining vacancy.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 - The microcentrifuges, microliter pipets, and the multichannel pipets have been purchased. Two (2) DNA analysts attended the Promega DNA symposium in October.

Goal 2 - This goal has not been achieved to date.

Little progress has been made during this reporting period as we were focused on working towards completion of the validation project included in a previous open grant, and working towards closing that same grant award.

Despite the fact that our turn around time decreased 28% and our DNA items analyzed per analyst increased 16.1% since the last reporting period, our backlog has increased 128% since the beginning of the award period. This is due to the fact that we only had one (1) DNA analyst for six months in 2011 as well as an increase in DNA requests for the year. (One of the two DNA analysts was removed from the bench due to a medical condition. She has since returned to the bench.)

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1 – The request for proposals for outsourcing the validation of the Qiagen robots was posted and recently closed. Awaiting proposals from Purchasing for evaluation.

Goal 2 – The undercounter freezer, desktop computers and monitors, and laptops (and software) have been received and installed. The water system, speed-vac concentrator, document sequencer, and additional microcentrifuges have been requested and are currently in the procurement process.

Four DNA analysts attended the DNA Interpretation Workshop on May 14-15, 2012 sponsored by the Mid-Atlantic Association of Forensic Scientists in Ellicott City, Maryland.

One DNA analyst was removed from case work on April 1, 2012 to assume the DNA Technical Leader duties for overseeing the implementation of the updated DNA analysis procedures using the 3130 genetic analyzers, Identifiler[®] Plus, and GeneMapper[®] ID-X. Therefore, only 1.5 DNA analysts remain to conduct casework. This, along with an exceptionally high case submission rate for May, has resulted in a 40.5% increase in the DNA case backlog. The increase in case submission was due to the fact that the Burglary Unit went through all old, open cases and submitted all potential evidence containing DNA to the Biology Unit. Turn around time increased by 70% because there were less cases scheduled for trial dates in this reporting period and the analysts were working on the oldest case submissions.

Despite the large increase in turn around time and backlog, the analysts averaged 18 samples per analyst per month, a reduction of only 1 item per month compared to the previous reporting period.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1 – The outsourcing of the validation of the Qiagen robots was awarded in early October with on-site testing concluded at the end of November. Teach back/training by the vendor is scheduled for February 5, 2013.

Goal 2 – The document sequencer, and two additional microcentrifuges have been received and installed. The speed vac concentrator has been received. The water system bids have been submitted and are in the process of being evaluated and should be awarded shortly.

With only 1.5 DNA analysts remaining to conduct casework, fewer cases are being completed monthly. Despite this fact, the backlog has decreased 18.4% from the previous reporting period. There was an 11.9% decrease in the number of items analyzed per analyst per month because the current analysts are taking time from case analysis to train for a new DNA analysis system (Identifiler Plus on 3130s with GMID-X) that will shortly go on-line.

Turn around time has increased by 10.9% because some of the cases completed were the oldest case submissions.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Goal 1 – The outsourcing of the validation of the Qiagen robots was awarded in early October with on-site testing concluded at the end of November. Teach back/training by the vendor was completed on February 5, 2013. All trained analysts successfully completed their competency test.

Goal 2 – The water system was installed on March 21, 2013. Micro amp plates, buffer septa strips, 96 well septa, latex/nitrile gloves, microcons, and pipet tips were ordered and received at the end of February.

For this reporting period, only one DNA analyst was conducting DNA case analysis. The other DNA analyst stopped doing case work in order to complete her training in the new DNA analysis system (EZ1 extraction, QuantDuo, Identifiler Plus on AB 3130 with GMID-X). The new analysis system, funded by previous grant awards, went on-line April 1, 2013. The average turn around time for DNA case completion in this reporting period decreased 53.4% compared to the average in the last reporting period. However, the average turn around time is not indicative of analysis efficiency as the only DNA cases being analyzed by the one analyst are those with trial dates. The average number of items analyzed per analyst per month increased marginally (9.7%) from 15.5 to 16.7 items.

FINAL REPORT

1. Goal 1 - To increase capacity of DNA analysis with the purchase of automated equipment. The goal of purchasing automated equipment has been accomplished. The extraction robot was purchased. However, capacity increase has not yet been realized because the validation of the equipment was completed at the end of the reporting period and the equipment (QIAcube and QIAgility robots) have not yet been incorporated into the analysis system.
2. Goal 2 - To increase the efficiency of DNA analysis by replacing aging equipment and maximizing the use of the limited laboratory space. This goal has been accomplished. The water system replaced an aging system purchased approximately 15 years ago. Desktop and laptop computers replaced

older computers that were in use. The under counter freezer purchased replaced a unit that no longer was reliably maintaining constant temperature.

The microcentrifuges purchased have both increased capacity and replaced some aging centrifuges. The pipets have increased capacity since sharing pipets between different hoods is no longer necessary.

The document sequencer has made page numbering very efficient since the analysts no longer have to take time to hand number the pages in their case files. The speed vac will permit long-term room temperature evidence storage of DNA extracts, eliminating the need for more freezers. Therefore, the freezer that was included in the original grant application was not needed as sufficient freezer space exists for long-term storage of other DNA evidence.

As the Biology Unit had been encountering problems with previous autoclaves, one was included in the original grant application. However, the problems did not reoccur with the equipment and a new autoclave was not needed.

From the beginning of this grant award until its completion, the average number of items analyzed per analyst per month decreased 14.3% from 13.3 items to 11.4 items on average. The average turn around time has increased 60.3% from 75.8 to 121.5 days since the start date of this award. Both of these statistics are not surprising given that there were 3 DNA analysts in the months preceding the start date of this award compared to only 1 DNA analyst in the last reporting period of this award.

Without previous grant awards, this laboratory would have been unable to fund the purchase and validation of the new higher capacity instrumentation.

Consequently, the analysts have spent much of their time training in the new analysis system over the last 6 months, resulting in a 159% increase in the DNA case backlog from 39 cases to 101 cases since the beginning of the award period.

As more analysts go on-line with the new DNA analysis system, it is anticipated that the DNA case backlog will decrease, the number of cases and items analyzed will increase, and the turn around time for case completion will decrease.

FY10 Recipient Name: Prince George's County, Maryland

Award Number: 2010-DN-BX-K095

Award Amount: \$342,645

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Utilize fund to acquire reagents to complete the analysis of 272 cases

Goal 2: Purchase a Qiagen EZ1 Advance XL instrument a Micro-centrifuge, a copier and an Automatic Document Sequencer.

Goal 3: Allow our analysts to attend a nationally recognized DNA training that would enhance their knowledge in DNA.

Goal 4: Have our analyst utilize overtime to complete backlogged cases.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- Goal 1: The NEPA Special condition has been removed. Once we have been given the ok to purchase reagents we would submit a requisition via the chain.
- Goal 2: The requisition for these items has been submitted through the chain of command.
- Goal 3: Application has been submitted through the chain of command for two analysts to attend the American Academy of Forensic Science.
- Goal 4: Once reagents are purchased when given the approval analysts will begin working these cases they will be allowed utilize the overtime funds to ensure that the casework is completed.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Goal 1: The NEPA special condition has been removed. We will be seeking permission shortly to pursue with obtaining these reagents.
- Goal 2: We have received the Qiagen EZ1 Advance XL instrument. A performance check is being performed. We have also received the Micro-centrifuge and the Automatic Document Sequencer, all of which are in use. The requisition for the copier has been placed.
- Goal 3: Two analysts have attended the American Academy of Forensic Sciences and the Technical Leader and one Analyst will be attending the Promega Meeting later in October, 2011.
- Goal 4: We have started utilizing overtime to complete our backlogged cases. 16 cases have been analyzed with some overtime funds. We will soon seek approval to utilize funds to acquire reagents to work the anticipated 272 cases.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Goal 1: The NEPA special condition has been removed. Approval was obtained for the purchase of reagents from Applied biosystems. Requisitions have been submitted for the purchase of Applied biosystems reagent to begin analysis of in house cases.
- Goal 2: We have received the Qiagen EZ1 Advance XL instrument. A performance check is being performed. We have also received the Micro-centrifuge and the Automatic Document Sequencer, all of which are in use. The copier was obtained during this reporting period. The copier has been put to use in the laboratory.
- Goal 3: We were not able to attend the Promega Meeting as planned as a result of administrative delays. Approval will be sought to through a GAN to attend another upcoming meeting.
- Goal 4: The overtime funds will be completed in the next reporting period. Our fiscal section is working on on gaining purchase orders for the laboratory to begin working with funds from this award to complete 272 cases.

One of our major constraint is the fact that our requisitions must go through the chain of command and in most instances where grant funding is involve it has to go through the County Administration where the laboratory has no control or influence on the approval time frame. We

anticipate that once approval is received we will be able to continue our efforts to reduce our backlog.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Utilize funds to acquire reagents to complete the analysis of 272 cases

As a result of the delay in the approval process for the purchase of reagents the laboratory was unable

(with approval being given in July 2012 the laboratory was unable to begin processing in house cases

in a timely manner. An extension was sought for the processing of these cases which we began

recently.

. Goal 3: Allow our analysts to attend a nationally recognized DNA training that would enhance their knowledge in DNA.

The Technical Leader and an analyst attended the Bode East conference which was very informative. The goal of continuing education for our DNA staff was achieved.

Goal 4: Have our analyst utilize overtime to complete backlogged cases.

Overtime funds were utilized in the early stages of this reporting period. This resulted in the completion of 20 more cases.

Constraint: All our objectives have been achieved except for the utilization of reagents to purchase reagents and complete 272 cases in house. This has been frustrating as approval for the utilization of the grant funds required approval from the county administration. This process required several reminders through our fiscal section of the grant closing date. We anticipate that with the extension granted the 272 cases will be completed by the new grant end date.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: Approval was received for the purchase of reagents and at the end of the reporting period the laboratory has completed a total of 103 cases with eighty four (84) samples being added to the CODIS database. We have since received six (6) CODIS matches. One has been confirmed as a hit and the other five we are working to resolve. It is anticipated that the laboratory will meet its obligation to this grant by the grant closing date.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1: At the end of this reporting period the laboratory have completed 134 cases with 40 profiles being added to the CODIS database. Two (2) have been confirmed hits. We anticipate that the laboratory will meet its obligations to this grant by the grant closing date of September 30th.

Goal 2: Completed in a previous period.

Goal 3: Completed in a previous period

Goal 4: Completed in a previous period.

Constraints: One analyst declined continuing education training and has since resigned. We will be requesting a budget modification to move funds from the travel category as a result of staff changes and cost reduction on items in our equipment. Once these adjustments are approved our grant is expected to close on time.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1: The laboratory completed 99 during this reporting period. All the remaining items were purchased in the period.

Goal 2: Completed in a previous period.

Goal 3: Completed in a previous period

Goal 4: Completed in a previous period.

FINAL REPORT:

The original goals of this project were:

Goal 1: Utilize fund to acquire reagents to complete the analysis of 272 cases

Goal 2: Purchase a Qiagen EZ1 Advance XL instrument, a Micro-centrifuge, a copier and an Automatic Document Sequencer.

Goal 3: Allow our analysts to attend a nationally recognized DNA training that would enhance their knowledge in DNA.

Goal 4: Have our analysts utilize overtime to complete backlogged cases.

The first goal of this project was the most challenging. This required the laboratory going through the County Government to acquire approval for the purchasing of the reagents. This was a tedious process and also involved acquiring a grant extension to allow the laboratory to accomplish this goal. The laboratory was still able to meet and surpass the goal of analyzing 272 cases in house. A total of 307 cases were analyzed with reagents from this grant. Overtime was also used for the completion of the analysis using funding from this grant.

The second goal of this project was accomplished when the Qiagen EZ1 Advanced XL, The Micro-Centrifuge and the Automatic Document sequencer were received during the second reporting period of the project and the copier received during the third reporting period. All instruments are now established equipment in the DNA laboratory.

The third goal was to allow DNA analysts the opportunity to attend nationally recognized meeting and to meet the QAS requirement. The completion of this goal took longer than expected and was accomplished over three years 2010 through 2012. Two analysts attended the American Academy of Forensics Meeting in 2010. One analyst attended the California Association of criminalists meeting in 2011. A grant adjustment was required for this because of the late response from the county regarding travel application. The Technical Leader and one other analyst attended the Bode Technical Leader workshop in Orlando Florida in 2012 while another attended the Promega meeting in Nashville in 2012. There were changes in the county regulation which required the submitting of application for travel through the chain of command at least three months in advance. There was also a new commitment requirement which lead to one analyst withdrawing her application for travel.

The fourth goal was completed in 2012. The use of overtime began in the second reporting period. A total of 443 cases were analyzed were completed using reagents funded with this grant and/or overtime from this grant. A total of 278 profiles were entered into the CODIS database. *An adjustment was made to the January 2013 to June 2013 reporting metrics. This is an adjustment from what was previously reported. Two offender hits were reported during the last reporting period. We have also received one confirmed hit since the grant reporting period

ended. As a result of the laboratory requesting named DNA samples from named suspects before analysis many cases completed with this grant obtained matches were resolved and dispositioned as conviction matches.

During the last reporting period a budget modification was requested to divert funds from the travel category to the equipment category. This change allowed the laboratory to utilize the remaining funds allowing the laboratory to accomplish its goals. File cabinets and a shredder were purchased for the storage of case folders and shredding of confidential DNA documents. Also during this period a total of 99 cases were work on during the overtime period. Through the use of funds from this grant and in house casework reorganization the DNA backlog of cases was reduced from 755 at the beginning of the grant award to 375 at the end of the grant award period, a 50% reduction.

All items purchased with the grant were received and are now established instruments in the laboratory.

All our analysts were able to obtain continuing education training and were able to return and share with their colleagues the increased knowledge obtained from conferences attended. The progress made within the laboratory could not have been accomplished without the funding provided by the National Institute of Justice Backlog Reduction Grant.

FY10 Recipient Name: Montgomery County, Maryland

Award Number: 2010-DN-BX-K070

Award Amount: \$103,236

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goals of the Montgomery County Department of Police Crime Laboratory are to improve the DNA analysis capacity and reduce the number of backlogged DNA cases in order to:

- Reduce the average number of days between submission of a DNA sample for analysis and the delivery of the test results to the detective and/or investigator (i.e. quicker turnaround time for each case)
- Increase the DNA analysis throughput for our laboratory (i.e. increase the capacity of samples to DNA per analyst per month)
- Percentage reduction in forensic DNA backlogged cases

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1 = There has been a 6 day increase in the turnaround time. This increase will begin to move in the other direction as additional analysts are added to the staff. The purchase of the equipment through this grant funding will also aid in moving towards a reduction.

Goal #2 = There has been no increase in samples to DNA. Again, additional analysts are needed and outsourced cases require full technical reviews but do not aid in analysis of samples to DNA.

Goal #3 = The backlog has been reduced by 2 cases.

A QIAcube robot has been purchased and recently delivered to the laboratory. Qiagen will be servicing the robot this week to ensure it's capable of operating as needed. The validation process will begin shortly.

One analyst has already booked her trip to AAFS in Chicago (Feb 2011) and this will fulfill her continuing education requirement.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal #1 = There has been an increase by one day in the turnaround time. Once the new analysts complete training and the robot is validated, this number should move to a reduction in turnaround time.

Goal #2 = There has been an increase in samples analyzed by 4. This number should also increase once the robot is validated and online for casework.

Goal #3 = The backlog has increased by 1 case.

Here is an update on the equipment:

9700 (received and being validated)

7500 (waiting for approval to purchase)

QIAcube robot (received and will start validation in early fall)

Autoclave (still needs to be purchased)

HP Tablets (still need to be purchased)

Two analysts completed their annual training requirement by attending AAFS and MAAFS.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal#1 = There is a 32 day reduction in the turnaround time from the beginning of the award period. This is most likely attributed to the addition of a new analyst going online for casework in October 2011, increasing our analysts from 4 to 5.

Goal#2 = The average number of samples analyzed per analyst per month has remained the same from the beginning of the award period. This is due to the equipment not being implemented into use in casework due to the performance check or validation projects not being completed to date or the items have still not been purchased for the Unit.

Goal#3 = The backlog has decreased by 27 cases due to the addition of an analyst in October 2011.

Here is an update on the equipment purchased under this grant:

QIAcube robot--The validation project has started and is estimated to be completed by June.

9700 and 7500--These instruments have been purchased and the performance checks are in the process of being completed. Upon completion and then review of the documentation, they will both be implemented for casework use.

Autoclave and tablets---Both of these items are currently being evaluated and should be purchased in the next few months.

Both analysts have attended their annual training requirements with funding under this grant (2011 AAFS and 2011 MAAFS).

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal#1 = There is a 46 day reduction in the turnaround time from the beginning of the award period. This decrease is attributed to the addition of a new analyst going online for casework in February 2012.

Goal#2 = The average number of samples analyzed per analyst per month has increased by 2 since the beginning of the award period. This slight increase will hopefully improve once the QIAcube robot is online for casework allowing the analysts to process more DNA samples.
Goal#3 = The backlog has decreased by 50 cases since the beginning of the award period. This is certainly due to the addition of a new analyst in February 2012.

Here is an update on the equipment purchased under this grant:

QIAcube robot---The validation project with Qiagen has been significantly delayed due to inhibition noted in select samples extracted using the robot. The project has been extended until December 2012 to ensure completion of the troubleshooting and remaining validation project.
9700 and 7500---The performance checks for these instruments should be completed in August and then each will be utilized for casework purposes.

Autoclave and tablets---Both of these items have been evaluated and are set to be purchased in August. The purchase of the tablets was delayed due to compatibility checks being needed for the software that will be utilized for casework on the tablet. Fortunately, the software will work with the operating system so the tablets can be purchased. This purchase was then delayed until after July due to the fiscal year ending with the County and no purchases being allowed for that amount of money after the end of May.

Both analysts have attended their annual training requirements with funding under this grant.

FINAL REPORT:

The goals of the Montgomery County Department of Police Crime Laboratory are to improve the DNA analysis capacity and reduce the number of backlogged DNA cases in order to:

- Reduce the average number of days between submission of a DNA sample for analysis and the delivery of the test results to the detective and/or investigator (i.e. quicker turnaround time for each case)
- Increase the DNA analysis throughput for our laboratory (i.e. increase the capacity of samples to DNA per analyst per month)
- Percentage reduction in forensic DNA backlogged cases

Overall there has been a 38 day reduction in the turnaround time in addition to a 60% backlog reduction of DNA cases. The throughput of DNA samples has been fairly consistent throughout the grant period with the exception of the most recent timeframe of July through Sept 2012. The backlog has been reduced starting from 82 to 33 cases and this reduction may be in part due to the samples going to DNA not increasing. Many of the cases being accepted for analysis do not require numerous samples to DNA to complete so that accounts for the backlog reduction without seeing the samples to DNA driving upwards.

Equipment and training accounted for the funding in the following:

- Two analysts completed their annual training requirement by attending AAFS and MAAFS (2011)
- 7500 has been validated and is online for casework so the Unit now has 2 quant instruments allowing two analysts to quant simultaneously
- 9700 validation is currently being reviewed and should be online for casework soon. This addition will increase the amplification throughput of the Unit.
- The small autoclave dedicated to post amplification use was recently received and is set up for use in our new building. We are slotted to move into our new space in November so this autoclave will allow post amp dishware to be autoclaved within that space instead of removing it to the reagent prep room autoclave.

- The tablets were received over a week ago and will also be implemented in the new building. Each analyst will have a tablet in their serological area to take notes and photos of items of evidence and the remaining tablets will be placed in various rooms throughout the lab space. This will allow for samples to be easily tracked through the lab steps electronically.
- The validation project of the QIAcube robot is in its last troubleshooting phase. Unfortunately inhibition is still being noted in selected samples. Once this is resolved, the analysts will minimize their manual extraction runs and will have an easier time increasing their sample throughput if needed.

In the end, the equipment and training received as a result of this grant allowed our lab to meet the goals set forth for this project.

FY10 Recipient Name: City of Baltimore, Maryland

Award Number: 2010-DN-BX-K105

Award Amount: \$469,149

Final Report:

PROGRESS REPORT 1 GOALS:

Goal 1 - Increase capacity of DNA Lab staff through the use of overtime funding.

Goal 2 – Purchase equipment items to increase DNA Lab efficiency and protect vital files.

Goal 3 – Retain current grant funded staff (6) and hire new staff (3) to maintain and/or increase Lab efficiency

Goal 4 – Utilize both an outsourcing and consultant contract for testing.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 - During this period the award was accepted by the City of Baltimore and approved by the Board of Estimates. Spending on overtime will commence in the next period.

Goal 2 – The computer back-up device was ordered and should be received during the next reporting period. The BPD-CL is in the process of obtaining quotes/pricing for the PCR Hoods and the auto door opener.

Goal 3 – Contracts for the 6 existing employees were prepared for approval and applications are being reviewed for 2 DNA technicians and one Evidence Technician.

Goal 4 – The contract for the consultant was prepared for City approval during this period. An RFP for an outsourcing contract is in draft form at the end of this reporting period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 – DNA Analysts are utilizing overtime funds to complete the Technical and Administrative Review portion of DNA cases. Overtime is being utilized to work on all of the cases reported in the metrics.

Goal 2 – Backup system acquired and installed. Goal completed. The requisition for the PCR Hoods has been entered into the City's Purchasing system.

Goal 3 – The BPD-CL retained two serologists and one Casework Assistant with this funding. The BPD-CL has also hired two additional Serologists in place of the two

budgeted DNA Technicians as the need to add resources to the Serology Unit increased.

Goal 4 – DNA outsourcing contract details were sent to Purchasing, and RFP has been crafted and is being finalized prior to publication. It will go out for bid at the beginning of the next period. Piecework serologist retained and processing casework.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 – Overtime continues to be utilized for the analysis of cases.

Goal 2 – The PCR Hoods will be delivered and installed within the first month of the next period.

Backup system acquired and installed. Goal completed.

Goal 3 – The BPD-CL retained two serologists and one Casework Assistant with this funding. The BPD-CL has also hired two additional Serologists in place of the two budgeted DNA Technicians as the need to add resources to the Serology Unit increased

Goal 4 – The consultant serologist continues to process casework. The DNA outsourcing contract has been awarded to Orchid Cellmark. The site visit was completed and a first shipment of 93 cases was sent on December 20th.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012 / FINAL REPORT

Goal 1 – This grant allowed currently-trained staff to expand their roles in the DNA lab which helped to maintain the lab's overall effectiveness. During the duration of this grant, all overtime funds were used towards increasing the capacity of DNA lab staff. The average number of samples analyzed per analyst per month remained constant; as a result, the administrative team worked to develop, validate, and implement new protocols, published in mid- July, that will most likely improve performance over the next six months. In addition, at the end of this reporting period, there was a significant increase in the number of backlogged cases. This increase can be attributed to an unexpected influx of cold case burglaries and an increase in sex offense sample requests over the last six months. This goal is completed.

Goal 2 – PCR Hoods were delivered and installed. This equipment was deployed to reduce issues regarding contamination in the isolation area. As a result of this equipment, no recent contamination issues were recorded through the Quality Assurance system. In addition, a computer back-up system was also purchased and installed to replace an older model that failed. Despite the computer failure, all records were recovered. This device is essential to ensure documents and records are retained long-term for production in court. This goal is completed.

Goal 3 – All staff was retained and new staff was hired to maintain lab capacity. Two serologist contracts ran out the term. This goal is completed.

Goal 4 – Outsourcing and consultant services were used for testing. The contractor, who has worked with the DNA lab team for many years, continued piecework serology testing. Also, testing for DNA was outsourced to a new vendor arranged through a standard RFP (Request for Proposal) process, Orchid Cellmark. Cases outsourced to Orchid Cellmark have been completed and returned, as well as the evidence. The case folders are currently undergoing review. In total, ninety-four cases were

outsourced for serology and DNA testing (this number includes funds from other grants). This goal is completed.

FY10 Recipient Name: Maine State Police

Award Number: 2010-DN-BX-K059

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The primary purpose of this grant is to conduct DNA Casework to reduce the backlog of DNA cases and solve more crime. This grant is being used to support a DNA Forensic Analyst and 2/5 of a second DNA Analyst. The goal is to process 252 cases by the end of the grant. There are also some funds for a limited amount of DNA casework supplies.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The full time DNA Analyst is still working under the 2009 DNA Backlog Reduction Program. All of her activities will be reported under that grant. The 2009 grant is nearing the end of it's funding and she will then go under the 2010 grant.

The other DNA Analyst is working 2/5 of her time on these grant activities and 3/5 of her time under the Convicted Offender Backlog Reduction Program. Her activities are kept separate for each grant.

She has completed 15 cases under this funding. One of the cases that she has completed is a Portland, Maine cold case homicide from 1985. She was able to use STR and YSTR analysis to rule out the suspect and the victim's husband as potential donors of DNA profiles developed from probative evidence.

None of the DNA supplies authorized under this grant have been purchased as of the close of this reporting period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The full time DNA analyst only recently began working under this grant on 5/29/11 but then attended a mandatory NIJ grantee conference and also had a week off. The part time analyst has been working 16 hrs a week for the whole reporting period. Between the two of them they completed 47 cases this period under this funding resulting in numerous probative DNA profiles and 3 CODIS hits. Considering the percentage of funding that is left and the cases completed so far the two analysts are on track to meet the goals of this grant.

Three of the completed cases are related arsons in which 6 structures were set on fire in one night. Blood was found at three of the arson scenes. The DNA profile from the blood matched the suspect and he was charged with all 6 arsons.

It should be noted that turnaround time shows a significant increase for this reporting period. That is a result of us having caught up our crimes against people cases and now completing much older property crimes cases that were in our backlog. When you complete just fairly recent cases the result is a quick turnaround time. As you complete the oldest cases there is a significant larger amount of average time that has passed from administrative review date to request entered date for cases completed during that reporting period.

We spent the entire \$18,611.86 allotted for DNA supplies by the end of this grant reporting period. None of these supplies has been used in casework yet. Therefore, there are no stats yet on

work done with grant funded supplies. The only stats reported are in the last question in the metrics for work done by grant funded salaries.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The full time DNA analyst worked the entire reporting period under this grant. The part time analyst worked 16 hrs a week from July 1st through Sept 30th. Beginning October 1st the part time analyst was moved to the 2011 DNA Backlog Reduction Program. (Please see the 2011 Backlog Reduction Program Progress Report for work completed under that program.) Between the two of analysts, they completed 104 cases this period under this funding resulting in numerous probative DNA profiles and 18 CODIS hits. (Please note that 24 of these cases are not counted in the “Optional” metric as explained below.) Considering the percentage of funding that is left and the total of 166 cases completed so far under this program, the two analysts are very slightly below schedule to meet the 252 case goal of this grant. A GAN will be submitted to request an extension on the grant whereas we are behind on spending the funds.

It should be noted that turnaround time still shows a significant increase since the inception of this grant. That is a result of us having caught up our crimes against people cases and now completing much older property crimes cases that were in our backlog. When you complete mostly fairly recent cases the result is a quick turnaround time, but only on those cases. As you complete the oldest cases in your backlog there is a significant larger amount of average time that has passed from administrative review date to request entered date for cases completed during that reporting period. The downward trend in backlog numbers, however, reflects the significant progress over the last year.

We spent the entire \$18,611.86 allotted for DNA supplies by the end of the last grant reporting period, but had not used these supplies in casework yet. We have now used these supplies in this reporting period. Therefore, we have reported stats that relate to these grant funded supplies without duplicating the numbers in the Optional metric.

*The 117 cases completed as reported above for this grant period reflect cases done by all analysts using grant funded profiling supplies. These numbers were not duplicated in the “Optional” metric. The 117 cases also reflect cases done with grant funded supplies by an analyst working under the 2011 DNA Backlog Reduction Program. These stats are not duplicated in the 2011 DNA grant progress reports in any metrics whereas these supplies were purchased under this grant. There is a note in that narrative to explain this situation.

** 24 additional cases were done by grant funded analysts during this reporting period. These numbers are not reflected in the Optional metric whereas these cases were done with grant funded supplies and are reflected in those metrics. (They are counted within the total 117 cases done with supplies.)

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The full time DNA analyst worked the entire reporting period under this grant. The part time analyst worked under the 2011 DNA Backlog Reduction Program for the entire reporting period . (Please see the 2011 Backlog Reduction Program Progress Report for her work completed under that program.)

The full-time analyst completed 108 cases this period under this funding resulting in numerous probative DNA profiles of which 29 were entered into CODIS resulting in 10 CODIS hits. Since the inception of this grant the two analysts together have completed 274 cases, specifically with this funding. This is already above the 252 case goal of this grant.

In one high-profile missing person case the full-time analyst has run over 100 items providing critical information to investigators.

It should be noted that turnaround time is trending back down. We are working through our backlog of older property crimes cases as we keep up with crimes against people cases. The downward trend in backlog numbers continues to reflect the significant progress over the last year or more.

The entire \$18,611.86 allotted for DNA supplies was consumed during the last grant reporting period. Therefore, the only stats reported are in the optional metric for the full-time grant-funded analyst.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

The full time DNA analyst worked until 10/30/12 under this grant. This work exhausted the casework funding. The stats reported above are just for the work done by this analyst from 7/1/12 to 10/30/12. As of 10/31/12 she began work under the 2011 Backlog Reduction Program. The part time analyst worked under the 2011 DNA Backlog Reduction Program for the entire reporting period. (Please see the 2011 Backlog Reduction Program Progress Report for their work completed under that program.)

The full-time analyst completed 97 cases this period under this funding resulting in numerous probative DNA profiles of which 19 were entered into CODIS resulting in 2 CODIS hits. Since the inception of this grant the two analysts together have completed 347 cases, specifically with this funding. This is far above the 252 case goal of this grant.

In one case the victim was held at gun point while being sexually assaulted by multiple suspects. Two suspects were identified through CODIS hits. One suspect had been a suspect in a previous case in which a known sample had been submitted. So far one male has been charged with multiple felonies in connection with this case.

It should be noted that turnaround time is significantly reduced from past reports. We have worked through most of the oldest property crimes cases as we keep up with new crimes against people cases. The downward trend in backlog numbers continues to reflect the significant progress over the last two years. We anticipate the turnaround time to increase again as we next move on to some of our oldest cases in our cold case backlog. However, we expect to see a continued drop in overall backlogs.

The entire \$18,611.86 allotted for DNA supplies was consumed during a previous grant reporting period. Therefore, the only stats reported are in the optional metric for the full-time grant-funded analyst.

FINAL REPORT:

The primary purpose of this grant was to conduct DNA Casework to reduce the backlog of DNA cases and solve more crime. This grant was used to support a DNA Forensic Analyst and 2/5 of a second DNA Analyst. The goal was to process 252 cases by the end of the grant. There were also some funds for a limited amount of DNA casework supplies. All of the funds for casework and for supplies were exhausted on 10/30/12.

The full-time analyst and part-time analyst together completed 347 cases working under this grant. This is far above the goal of 252 cases stated in our application. This work resulted in numerous probative DNA profiles that placed victims, suspects and crime scenes together. The work also resulted in 96 unidentified DNA profiles being entered into CODIS. Of those, 33 hits were identified providing valuable leads to open investigations.

In one recent case the victim was held at gun point while being sexually assaulted by multiple suspects. Two suspects were identified through CODIS hits. One suspect had been a suspect in a previous case in which a known sample had been submitted. So far one male has been charged with multiple felonies in connection with this case. In one high-profile missing person case the full-time analyst has ran over 100 items providing critical information to investigators. We used grant-funded analysts to match the scenes in which 6 structures were set on fire in one night. Blood was found at three of the arson scenes. The DNA profile from the blood matched the suspect and he was charged with all 6 arsons. Grant funding supported work on a cold case homicide. The analyst was able to use STR and YSTR analysis to rule out the suspect and the victim's husband as potential donors of DNA profiles developed from probative evidence. It should be noted that turnaround time varied greatly during the reporting periods. It went from 49 days at the beginning, to a high of 215 days, to 52 days at the end of the grant. The variance was as a result of working on our oldest cases as we worked through our backlogs. The most impressive stats are those that track our backlog numbers. We started the grant with 460 cases in our backlog. We steadily reduced that backlog to 71 at the end of the grant. We now keep up with new crimes against people cases as they come in. We do anticipate the turnaround time to increase again as we next move on to some of our oldest cases in our cold case backlog. However, we expect to see a continued drop in overall backlogs. The \$18,611.86 allotted for DNA supplies was used to complete 117 cases. Of these cases 49 resulted in DNA profiles that were entered into CODIS. 17 of those cases resulted in hits. These stats were not duplicated in the optional metric for the work completed by the grant-funded analysts.

FY10 Recipient Name: Michigan State Police

Award Number: 2010-DN-BX-K153

Award Amount: \$2,322,645

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: Continue payroll support for additional laboratory personnel:
- Goal 2: Make overtime available for laboratory staff directly engaged in handling, screening, and/or analyzing forensic evidence that may contain DNA for the purpose of backlog reduction
- Goal 3: Purchase laboratory supplies for forensic DNA analysis and other expenses directly attributable to forensic DNA analysis.
- Goal 4: Contract with accredited fee-for-service vendor laboratories to conduct DNA analysis
- Goal 5: Travel to outsourcing laboratories to review practices and procedures
- Goal 6: Provide internal and/or external training related to DNA laboratory operation.
- Goal 7: Purchase laboratory equipment for forensic DNA analyses.

PROGRESS REPORT 1: October 1, 2010 – June 30, 2011

- Goal 1: No expenses for this charged to the grant yet.

- Goal 2: No expenses to the grant yet.
- Goal 3: No expenses for this charged to the grant yet.
- Goal 4: No expenses for this charged to the grant yet.
- Goal 5: No expenses for this charged to the grant yet.
- Goal 6: 10th Annual Advanced DNA workshop – Bode East.
- Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, instrument maintenance and end to end DNA process tracking on a per-sample basis. The purchase would most likely occur within the next reporting period.

Performance Metric Comments:

No CODIS cases or work has been done on this grant yet.

PROGRESS REPORT 2: July 1, 2011 – December 31, 2011

- Goal 1: No expenses for this charged to the grant yet.
- Goal 2: No expenses to the grant yet.
- Goal 3: No expenses for this charged to the grant yet.
- Goal 4: No expenses for this charged to the grant yet.
- Goal 5: No expenses for this charged to the grant yet.
- Goal 6: 10th Annual Advanced DNA workshop – Bode East.
- Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, instrument maintenance and end to end DNA process tracking on a per-sample basis. The purchase would most likely occur within the next reporting period. The purchase is waiting on internal purchasing approvals.

Performance Metric Comments:

No CODIS cases or work has been done on this grant yet.

PROGRESS REPORT 3: January 1, 2012 – June 30, 2012

Goal 1: Continue payroll support for additional laboratory personnel:

Lansing (3 positions) continue to complete casework independently. Lansing's vacant DNA technician position was filled in February of 2010, who is the Forensic Science Division's forensic technician. In addition, she is assisting the Lansing laboratory with returning DNA extracts and evidence to submitting law enforcement agencies.

Grand Rapids (2 positions) - continues to complete casework independently. Grand Rapid's grant-funded DNA technician position that has been vacant is expected to be filled shortly.

Northville (3 positions) - Both scientists, continue to complete casework independently. Northville's grant-funded DNA technician position is filled.

Goal 2: Make overtime available for laboratory staff directly engaged in handling, screening, and/or analyzing forensic evidence that may contain DNA for the purpose of backlog reduction:

Overtime continues under this award to reduce the Division's backlog. Overtime was previously charged to the 2009 DNA backlog reduction grant.

Goal 3: Purchase laboratory supplies for forensic DNA analysis and other expenses directly attributable to forensic DNA analysis.

No expenses for this charged to the grant yet.

Goal 4: Contract with accredited fee-for-service vendor laboratories to conduct DNA analysis

Outsourcing has begun under this grant during this reporting period. Outsourcing will be conducted through three accredited fee-for-service vendor laboratories: Strand, Sorenson, and Bode. During the next reporting period we should have cases to report. We are still awaiting cases to be returned.

Goal 5: Travel to outsourcing laboratories to review practices and procedures:

Travel to Marshall University was done during March for a site visit to review practices, and procedures by our DNA Technical Leader. Marshall University has agreed to work with NIJ and the Michigan State Police to conduct some case work involving the City of Detroit and their untested sexual assault kits.

Goal 6: 10th Annual Advanced DNA workshop – Bode East was completed during the last reporting period.

Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, instrument maintenance and end to end DNA process tracking on a per-sample basis. The purchase would most likely occur within the next reporting period. The purchase is waiting on internal purchasing approvals. Still waiting.

Performance Metric Comments:

The average number of days between submission of a DNA sample and delivery of the test results to the requesting agency was 270 days. 323 cases were analyzed and delivered to the requesting agency.

96 profiles were entered into CODIS as a result of the funding provided under this award.

There were 24 forensic and 32 offender CODIS hits attributable to analyses funded under this award.

590 cases were completed, 174 profiles uploaded. There were 45 hits by 5 grant funded analysts.

PROGRESS REPORT 4: July 1, 2012 – December 31, 2012

Goal 1: Continue payroll support for additional laboratory personnel:

Lansing (3 positions) continue to complete casework independently. Lansing's vacant DNA technician position was filled in the fall of 2012, who is the Forensic Science Division's forensic technician.

Grand Rapids (1 position), continues to complete casework independently. The vacant grant-funded position still remains vacant.

Northville (3 positions) - Both scientists, continue to complete casework independently. Northville's grant-funded DNA technician position is filled.

Goal 2: Make overtime available for laboratory staff directly engaged in handling, screening, and/or Analyzing forensic evidence that may contain DNA for the purpose of backlog reduction:

Overtime continues under this award to reduce the Division's backlog.

Goal 3: Purchase laboratory supplies for forensic DNA analysis and other expenses directly attributable to Forensic DNA analysis.

No expenses for this charged to the grant yet.

Goal 4: Contract with accredited fee-for-service vendor laboratories to conduct DNA analysis

Outsourcing has begun under this grant during this reporting period. Outsourcing will be conducted through three accredited fee-for-service vendor laboratories: Strand, Sorenson, and Bode. Approximately 137 cases were outsourced to accredited fee-for-service vendor laboratories (Marshall University and Bode Technologies.) These were a portion of the 1,000 cases outsourced from the Detroit Police Department's untested sexual assault kit backlog.

Goal 5: Travel to outsourcing laboratories to review practices and procedures: Goal completed.

Goal 6: 10th Annual Advanced DNA workshop – Bode East was completed during the last reporting period.

Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, Instrument maintenance and end to end DNA process tracking on a per-sample basis. The purchase would Most likely occur within the next reporting period. The purchase is waiting on internal purchasing Approvals. Still waiting.

Performance Metric Comments:

The average number of days between submission of a DNA sample and delivery of the test results to the requesting agency was 248 days. 495 cases were analyzed and delivered to the requesting agency.

187 profiles were entered into CODIS as a result of the funding provided under this award. There were 20 forensic and 61 offender CODIS hits attributable to analyses funded under this award.

279 cases were completed, 78 profiles uploaded. There were 29 hits by 5 grant funded analysts.

PROGRESS REPORT 5: January 1, 2013 – June 30, 2013

Goal 1: Continue payroll support for additional laboratory personnel:

Lansing (4 positions) continue to complete casework independently. Lansing's vacant DNA technician position was filled in the fall of 2012, who is the Forensic Science Division's forensic technician. A forensic scientist was also hired in Lansing, to fill a vacancy. She is currently going through training.

Grand Rapids (1 position) - continues to complete casework independently. The vacant grant-funded position still remains vacant.

Northville (7 positions) - Both scientists, continue to complete casework independently. Northville's grant-funded DNA technician position is filled. Four additional forensic scientists were hired. They are currently going through training.

Goal 2: Make overtime available for laboratory staff directly engaged in handling, screening, and/or Analyzing forensic evidence that may contain DNA for the purpose of backlog reduction:

Overtime continued under this award to reduce the Division's backlog. Overtime switched over to the 2011 award during this reporting period. At the end of this reporting period all overtime will be charged to the 2011 award.

Goal 3: Purchase laboratory supplies for forensic DNA analysis and other expenses directly attributable to Forensic DNA analysis.

N/A. No longer a goal.

Goal 4: Contract with accredited fee-for-service vendor laboratories to conduct DNA analysis

Goal was completed.

Goal 5: Travel to outsourcing laboratories to review practices and procedures: Goal was completed.

Goal 6: 10th Annual Advanced DNA workshop – Bode East was completed.

Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA

LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, Instrument maintenance and end to end DNA process tracking on a per-sample basis.

The objective of purchasing a DNA LIMS database was removed because of internal purchasing restrictions and time lines which extended well beyond the grant period. A GAN was submitted that moved the objective to the 2011 award to ensure that the LIMS system could still be purchased.

Another GAN was submitted for purchasing four 3500 Genetic analyzers from Life Technologies to replace the current 3130 analyzers. Currently, MSP Forensic Science Division uses 3130 Genetic Analyzers with capacity of 16 capillaries. These units are between 5-7 years old and the manufacturer is no longer servicing these units.

Performance Metric Comments:

The average number of days between submission of a DNA sample and delivery of the test results to the requesting agency was 194 days. 513 cases were analyzed and delivered to the requesting agency.

79 profiles were entered into CODIS as a result of the funding provided under this award. There were 11 forensic and 74 offender CODIS hits attributable to analyses funded under this award.

62 cases were completed, 44 profiles uploaded. There were 37 hits by 5 grant funded analysts.

PROGRESS REPORT 6: July 1, 2013 – October 31, 2013

Goal 1: Continue payroll support for additional laboratory personnel:

Lansing (4 positions) continue to complete casework independently. Lansing's vacant DNA technician position was filled in the fall of 2012, who is the Forensic Science Division's forensic technician. A forensic scientist was also hired in Lansing, to fill a vacancy. She is currently going through training.

Grand Rapids (1 position) - continues to complete casework independently. The vacant grant-funded position still remains vacant.

Northville (7 positions) - Both scientists, continue to complete casework independently. Northville's grant-funded DNA technician position is filled. Three of the four forensic scientists that were hired continue going through training. A forensic scientist was hired during the last reporting period, has left for another position. The vacant forensic scientist position has been posted and we are taking applications.

Goal 2: Make overtime available for laboratory staff directly engaged in handling, screening, and/or Analyzing forensic evidence that may contain DNA for the purpose of backlog reduction:

Overtime continued under this award to reduce the Division's backlog. Overtime switched over to the 2011 award during this reporting period. Goal was completed during the last reporting period.

Goal 3: Purchase laboratory supplies for forensic DNA analysis and other expenses directly attributable to Forensic DNA analysis.

No longer a goal.

Goal 4: Contract with accredited fee-for-service vendor laboratories to conduct DNA analysis

Goal was completed.

Goal 5: Travel to outsourcing laboratories to review practices and procedures: Goal was completed.

Goal 6: 10th Annual Advanced DNA workshop – Bode East was completed.

Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA

LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, Instrument maintenance and end to end DNA process tracking on a per-sample basis.

The objective of purchasing a DNA LIMS database was removed because of internal purchasing restrictions and time lines which extended well beyond the grant period. A GAN was submitted that moved the objective to the 2011 award to ensure that the LIMS system could still be purchased.

A GAN was submitted to purchase four 3500 Genetic analyzers were purchased from Life Technologies to replace the current 3130 analyzers. Also to purchase Genemapper ID-x licenses, both client and full.

Performance Metric Comments:

The average number of days between submission of a DNA sample and delivery of the test results to the requesting agency was 107.3 days. 597 cases were analyzed and delivered to the requesting agency.

7 profiles were entered into CODIS as a result of the funding provided under this award.

There were 4 forensic and 11 offender CODIS hits attributable to analyses funded under this award.

FINAL REPORT:

Goal 1: Continue payroll support for additional laboratory personnel:

The DNA unit has three laboratories (Lansing, Grand Rapids, and Northville) which have ten employees funded by the DNA backlog reduction grant. Five of these scientists are fully trained and completed casework independently. These scientists examine evidence in both body fluid identification and DNA analysis. These fully trained scientists have a broad knowledge of all aspects of forensic science and the principals of criminal law and investigation.

The unit has two forensic technicians, and they assist with receiving of evidence from law enforcement agencies, making some entries of case specific information in the Laboratory Information Management System, and storing evidence in secure and appropriate locations.

Four forensic scientists were hired in 2013; of the four only three are currently continuing to go through training, one has left the Department for another position.

Even though the Northville lab lost a forensic scientist, the time period that the 2010 grant has been open has by far been the most successful. To be able to have this many grant funded scientists on staff is something that the DNA Technical Leader and Division Director have worked to achieve for a very long time. Having four of the top ten most violent cities in America within 75 miles of the two laboratories the high numbers of cases that need to be examined are a constant struggle for the Division's DNA unit.

The increase in staff for the DNA unit will go a long way toward reducing the Division's growing backlog. Without the 2010 DNA backlog reduction grant funding the Division would not be able to successfully reduce the backlog. This will be evident when all of the new hires are fully trained and able examine/review cases independently.

Goal 2: Make overtime available for laboratory staff directly engaged in handling, screening, and/or Analyzing forensic evidence that may contain DNA for the purpose of backlog reduction:

Goal was completed during the last reporting period which was January through June 2013. Overtime has always been a very important part of the Division's DNA unit's success. The struggle that Division faces is managing a balance between productive overtime and too much overtime which usually results in errors. Overtime is now being funded by the 2011 DNA backlog reduction grant.

Goal 3: Purchase laboratory supplies for forensic DNA analysis and other expenses directly attributable to Forensic DNA analysis.

No longer a goal.

Goal 4: Contract with accredited fee-for-service vendor laboratories to conduct DNA analysis

Outsourcing included approximately 137 cases were outsourced to accredited fee-for-service vendor laboratories (Marshall University and Bode Technologies.) These were a portion of the 1,000 cases outsourced from the Detroit Police Department's untested sexual assault kit backlog. The outsourcing is a necessity because of the large number of cases we have in-house and have inherited from the City of Detroit.

Goal 5: Travel to outsourcing laboratories to review practices and procedures: Travel to Marshall University was done during March for a site visit to review practices, and procedures by our DNA Technical Leader. Marshall University has agreed to work with NIJ and the Michigan State Police to conduct some case work involving the City of Detroit and their untested sexual assault kits.

Goal 6: 10th Annual Advanced DNA workshop – 12 analysts were able to attend the Advanced DNA Technical Workshop in Amelia Island, Florida. The Bode East conference had a workshop by life technologies; there was a familial search workshop, as well as a mixture interpretation workshop, and some technical sessions, with various speakers.

Goal 7: A purchase order request was initiated for the DNA information Management System. A DNA LIMS system would be specific to the DNA analytical process covering consumable management, QA/QC, Instrument maintenance and end to end DNA process tracking on a per-sample basis.

The objective of purchasing a DNA LIMS database was removed because of internal purchasing restrictions and time lines which extended well beyond the grant period.

New Goal 7: Purchase four 3500 Genetic Analyzers from Life Technologies and Genemapper ID-x licenses v 1.4; two full licenses and three client licenses.

Four 3500 Genetic Analyzers were purchased from Life Technologies to replace the current 3130 analyzers.

Two full licenses and three client licenses were purchased from Life Technologies. The Michigan State Police division that analyzes offender DNA samples utilizes two 3130xl instruments from Life Technologies. This was completed in October of 2013. Under this objective, the Michigan State Police purchased one 3500 Genetic Analyzers (24 capillaries each) and three 3500 xL Genetic Analyzers from Life Technologies and will be re-purposing the 3130xl instruments into the casework section. This will increase the capacity of the offender (96 total capillaries) and casework units, and relieve our dependence upon the much smaller and slower 310 Genetic Analyzers. By upgrading equipment such as Life Technologies 3500/3500xL Genetic Analyzers, this will help increase capacity and reduce the DNA backlog. The 3500 Series Genetic Analyzers for Human Identification Applications are the first capillary electrophoresis (CE) instruments developed specifically to meet the Requirements of Human Identification (HID) laboratories. The objective of the project funded by 2010-DN-BX-K153 is to handle, screen, and analyze backlogged forensic DNA casework samples and to improve DNA laboratory infrastructure and analysis capacity so that forensic DNA samples can be processed efficiently and cost-effectively, and so that future backlogs can be prevented. The equipment was purchased from Life Technologies, with a sole source GAN. The major struggle was the timeline that the Division and NIJ had to work within. A 30 day extension was needed to achieve the purchase, but with NIJ's assistance the Division was able to successfully make the purchase. This was a fantastic and major purchase for the Michigan State Police, DNA unit; one that was long overdue, and will improve all aspects of our service to the State of Michigan citizens.

Genemapper software is from Life Technologies, it was also purchased to run and support the Life Technologies Genetic Analyzers. More specifically the software will be 4 Genemapper ID-x, version 1.4 two full licenses, and three Genemapper ID-x, version 1.4 client licenses.

In closing, this has been one of the most successful DNA backlog reduction grants. The Division was able to purchase new equipment that will improve efficiency, is cost effective and will reduce the Division's DNA backlog.

The Division was also able to hire some new scientists, that it's self was a major accomplishment, and desperately needed. Without NIJ funding and assistance from the DNA backlog program staff, none of these accomplishments would have been obtainable.

Performance Metric Comments:

The average number of days between submission of a DNA sample and delivery of the test results to the requesting agency was 206.7 days. 1,928 cases were analyzed and delivered to the requesting agency.

369 profiles were entered into CODIS as a result of the funding provided under this award. There were 59 forensic and 178 offender CODIS hits attributable to analyses funded under this award.

931 cases were completed, 296 profiles uploaded. There were 111 hits by 5 grant funded analysts.

FY10 Recipient Name: Hennepin County, Minnesota

Award Number: 2010-DN-BX-K155

Award Amount: \$107,965

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 – To efficiently manage an increasing caseload of sexual assaults the lab will purchase a digital documentation system, mixture deconvolution software, and an alternate light source. (Mixture deconvolution software was added and a fluorescent microscope removed, a GAN documenting this change was submitted.

~~Goal 2 – To use funds to allow Biology staff to work overtime to help deplete the backlog of cases waiting for DNA analysis.~~ (This goal has been eliminated and a GAN documenting this change was submitted)

Goal 3 – To use funds to purchase supplies to support the additional samples processed due to overtime and productivity improvements.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 – In this reporting period the lab continues to research vendors and suppliers

~~Goal 2 – No overtime has been used during this reporting period.~~ (This goal has been eliminated)

Goal 3 – During this reporting period no supplies have been purchased.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 –The lab has requested a sole source agreement with NicheVision to purchase 6 license agreements for the mixture deconvolution software ArmedExpert. The proper requests were filed with Hennepin County Purchasing (May 2, 2011), but the lab has not yet received a go ahead with the purchase. In addition, the lab is in negotiation with a vendor (Mideo Systems) to purchase a system that will add to the lab capabilities in digital documentation and greatly enhance the current digital

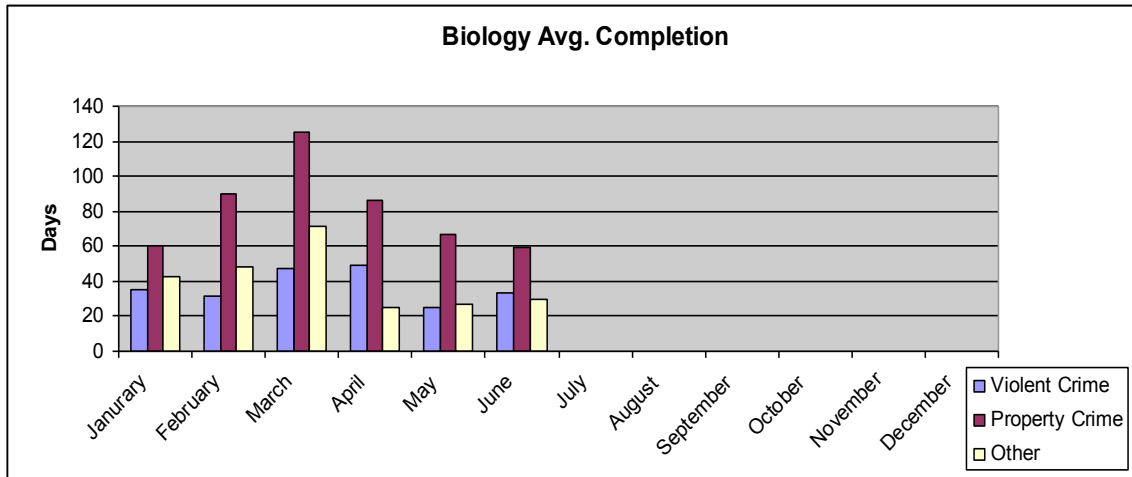
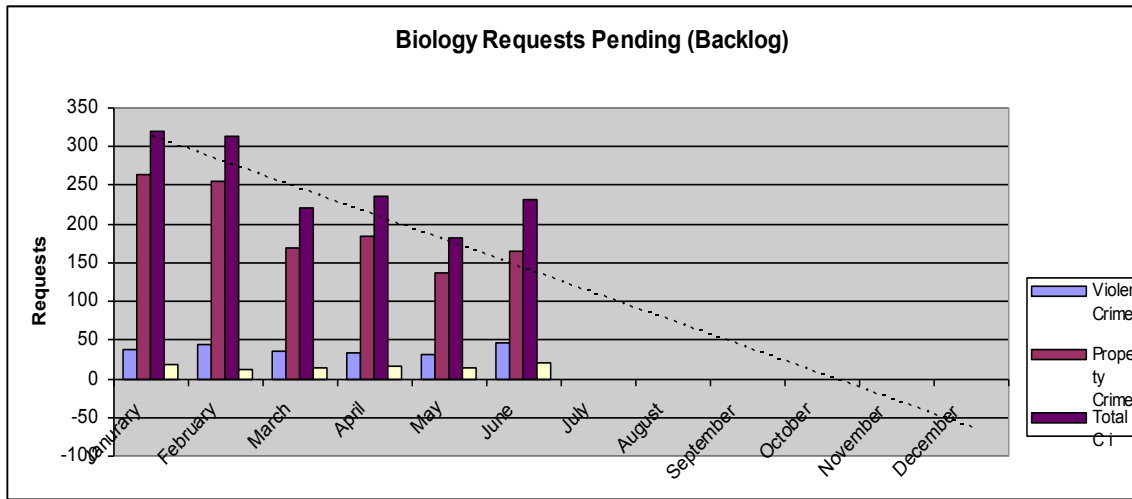
information and documentation system. Once final agreements can be reached, we intend to purchase in the third quarter of 2011.

An alternate light source that has the capability of providing multi wave length light as well as magnification on an articulating arm is in the purchasing system and needs permission from county purchasing to complete the transaction.

During this reporting period the lab experienced a slight increase in backlogged cases and an increase in turn around time from previous months. This can be attributed to a full scale in-house validation of the Identifiler Plus amplification kit and a complete re-work of the labs DNA interpretation guidelines. The new guidelines are conforming to the SWGDAM recommendations. Over 1000 man hours went into this project, so the labs output was impacted.

Goal 2 – This Goal has been eliminated

Goal 3 – Supplies have not been purchased through the end of this reporting period. The lab intends to purchase supplies in the third or fourth quarter of 2011.



PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: During this reporting period the lab has purchased 7 users licenses for the data analysis software ArmedXpert. The system has been installed and a two day training course was provided by the vendor. The lab is currently working to validate the

population stats portion of the software and implement use and workflow procedures so we can incorporate the software into our casework SOPs. The mixture deconvolution portion of the software will be implemented at a time later than the population statistics and batch searching features due to the time it will take to validate this portion of the software and then train the staff.

We are working with the vendor to allow us to use two different theta values in our population database, this has slowed down the implementation process.

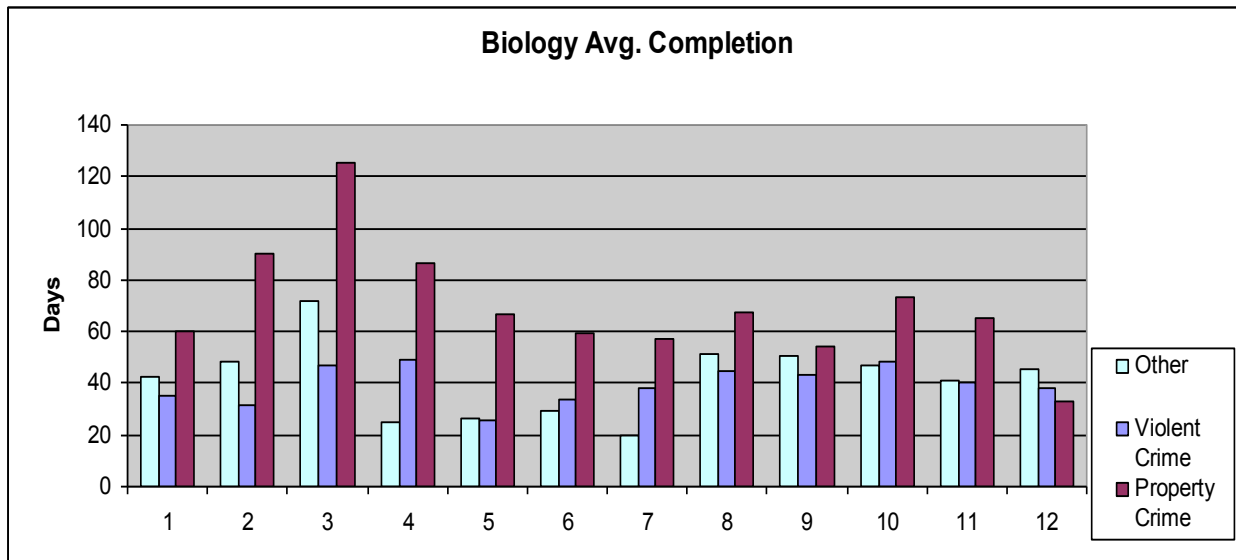
The lab purchased three user licenses for the Mideo Caseworks software to improve the documentation of biology screening case notes. This software has the ability to easily record all of the information from serology screening and produce an easy to read template with all of the relevant information as well as detailed photos of the evidence. This information can then be seamlessly transferred and stored in the labs LIMS for easy electronic review and retrieval.

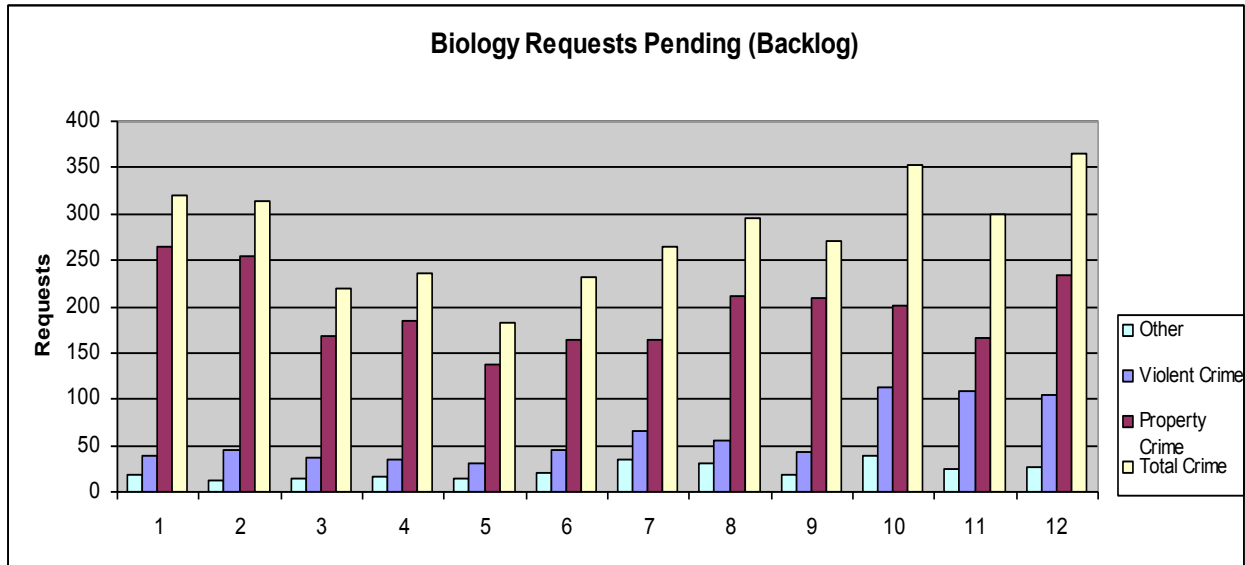
The Mideo Caseworks has only recently been installed and the lab is still in the process of determining the details in exactly how it will be used and how the templates will be created.

The lab purchased and received the ALS system that will be installed in the Biology screening room to assist in the visualization of seminal fluid stains on items submitted from sexual assaults. The ALS requires installation that has been scheduled for late February.

Goal 2 – This goal has been eliminated

Goal 3 – Approximately \$6000 in supplies were purchased during this reporting period, however they have not yet been used for casework samples





The lab saw an uptick in the number of backlogged cases. Primary causes are big increase in submissions of property crimes and additional evidence submitted from cases worked under a cold case grant. In addition one DNA analysts left in August and another has been out on extended maternity leave.

FINAL REPORT:

Goal 1: To efficiently manage an increasing caseload of sexual assaults the lab will purchase a digital documentation system, mixture deconvolution software, and an alternate light source.

Final Progress: The Hennepin County Sheriff's Crime Lab purchased the Mideo Caseworks software package to more effectively and efficiently document evidence and be able to maintain an electronic copy of evidence images and associated notes. The software package has been completely installed and training of analysts has been completed. Casework implementation is expected in the third quarter of 2012.

The lab will use this software to digitally capture images of the evidence and then load the images on to a notes template that will contain a checklist of information relating to observations, tests and other pertinent data. This notes report will then be stored in the laboratories information management system and can be easily accessed for review, and final reporting. This new software will replace the labs current method of evidence documentation which consisted of handwritten sketches, and descriptive narratives of the evidences appearance. As the new software is implemented we anticipate a substantial increase in biology screening efficiency and the screening process will be more complete and have a very professional appearance.

Mixture deconvolution software was purchased to assist in breaking the bottleneck in the DNA data analysis and report generation stage. Batch processing, while extremely efficient in moving samples through the DNA processing stage, tends to dump voluminous amounts of data on the reporting analyst and this portion of the process has become our rate limiting step. ArmedExpert from Nichevision, has been completely installed and training of seven analysts has been completed. Casework implementation is expected in the fourth quarter of 2012. With ArmedXpert it is anticipated that reporting

analysts will be able to drop the ad hoc system currently in use and combine a majority of the data analysis into this one program, creating a more consistent and simplified way to manage data, interpret mixtures, perform statistical analysis and enter samples to CODIS. A forensic alternate light source (ALS) was purchased from Foster and Freeman. This light has been installed and is operational. Screening evidence for biological fluids is a critical aspect in forensic biology, this instrument is a significant upgrade from the labs previous handheld ALS.

Purchasing and implementing new software into casework procedures takes time. Performance metrics have not been significantly affected by the new processes due to the lack of time since implementation; however, experience suggests the lab will see improved productivity in the future due to the new software and this will be reflected in productivity measurements in future awards.

This goal has been met.

Goal 2 – To use funds to purchase supplies to support the additional samples processed due to productivity improvements.

Final Progress: Because of continued productivity improvements the HCSO now processes over 3000 DNA casework samples per year compared to approximately 1700 samples in 2009, an increase of 76% in just two years. The HCSO used funds from this award to purchase approximately \$7,000 in supplies. Supplies included capillary arrays, personal protective equipment, pipette tips, CE supplies, pH meter, vortex mixers and pipettes. The lab purchased two Hand held CrimeLights® for the identification of seminal fluid stains at crime scenes.

Performance metrics attributed to supplies funded by this award are based on the percentage of award funds to overall Biology lab supply budget. The award funds for supplies represent approximately 1.1% of the labs 18 month supply budget. The lab has a CODIS hit rate (Total CODIS hits/specimen entries) of 45.3%. These values are used to determine the number of CODIS samples entered and CODIS hits attributable to supply funds.

During this award period the HCSO lab submitted 717 samples for inclusion to CODIS. Applying the 1.1% value to total CODIS submissions, 8 CODIS submissions can be attributed to this award. Since the labs CODIS hit rate is approximately 50%, 4 CODIS hits can be attributed to this award. The following cases are representative of the CODIS submissions and CODIS matches generated by the HCSO Lab using supply funds from this award:

Case No.	Offense	Results
1. 11-0459	Robbery	CODIS match to profile from a glove
2. 11-0703	Residential Burglary	CODIS match to profile from a water bottle
3. 11-0885	Residential Burglary	CODIS match to profile from blood on a shirt
4. 11-1047	Sexual Assault	Unidentified male profile submitted to CODIS
5. 11-1303	Accident – Fleeing scene	Unidentified profile from airbag submitted to CODIS
6. 11-1315	Theft from Auto	CODIS match to profile from an allen wrench ratchet

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|----|---------|----------------------|--|
| 7. | 11-1624 | Business Burglary | Unidentified profile from a glove submitted to CODIS |
| 8. | 11-2247 | Residential Burglary | Profile from a bandaid matching suspect offered to CODIS |

This goal has been met.

FY10 Recipient Name: Minnesota Department of Public Safety

Award Number: 2010-DN-BX-K164

Award Amount: \$527,121

Final Report:

GOALS AND OBJECTIVES OF PROJECT: The overall goals of the 2010 grant are to identify and reduce the number of backlogged DNA cases and support activities that contribute to high quality work in the DNA area.

The plan outlined to accomplish these goals, along with the progress of each plan are listed below.

- Goal 1: Increase personnel capacity to by funding paid overtime hours for DNA scientist to perform both serological examinations and DNA analysis on backlogged cases AND by funding a temporary position to support the Biology section.
- Goal 2: Support the analysis of Biology cases through the purchase of consumable supplies used to perform serological examinations and DNA analysis.
- Goal 3: Support the analysis of Biology cases through the purchase of instrumentation that would either increase capacity or replace instruments toward the end of their life-cycle.
- Goal 4: Support the continued quality of work by providing funding for DNA scientists to attending training events.
- Goal 5: Support of DNA casework through the funding of service contracts to ensure that the instrumentation used is maintained in good working order and repairs are made in a timely manner.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The BCA Forensic Science Service conduct DNA analysis in two laboratories, one in St. Paul and one in Bemidji, MN. The 2010 DNA Backlog Reduction grant became available in October, 2010. However, The BCA Lab system is still utilizing portions of the 2009 DNA Backlog Reduction grant until the end of March 2011.

*No overtime hours have been funding with grant money during this reporting period.

- Goal 1: No funding from this grant has been used to fund this position this reporting period. The position continues to be funded with 2009 DNA Backlog Grant funding through March 31, 2011.
- Goal 2: No supplies were purchased with grant funding during this reporting period.
- Goal 3: No instruments were purchases with grant funding during this reporting period.
- Goal 4: No training events were attending with the use of grant funding during this reporting period.

Goal 5: No 2010 grant funding was used for service contracts during this reporting period. Service contracts on all instrumentation will continue to be funded with 2009 DNA Backlog Reduction Grant through March 31, 2011.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The BCA Forensic Science Service conduct DNA analysis in two laboratories, one in St. Paul and one in Bemidji, MN. The 2010 DNA Backlog Reduction grant became available in October, 2010. However, The BCA Lab system is still utilizing portions of the 2009 DNA Backlog Reduction grant until the end of March 2011.

Goal 1a: Laboratory Management determined to utilize State funding for all overtime until the end of the State Fiscal Year 11, which ended on June 30, 2011.

Therefore, no overtime hours have been funding with grant money during this reporting period.

Goal 1b: This position was funded through the 2009 DNA Backlog Reduction Grant through March 31, 2011. Funding for the position was changed to the 2010 Backlog grant as of April 1, 2011 and funding continued through June 30, 2011.

Goal 2: Laboratory Management determined to utilize State funding for all supplies until the end of the State Fiscal Year 11, which ended on June 30, 2011. Therefore, no supplies were purchased with grant funding during this reporting period.

Goal 3: A GAN was submitted to NIJ in February, 2011 which requested changes to the types of equipment to be purchased with grant funding. The approved GAN allowed for the trade-in of two of the existing AB 7000 Real Time PCR units toward the purchase of two AB 7500 Real-Time units and a centrifuge in place of the liquid handling systems that were part of the original approved budget. As stated in the GAN, the Laboratory had used 2009 DNA Backlog Reduction grant money to purchase the liquid handling systems.

During this reporting period, the BCA initiated the purchasing process for the following equipment items:

2 – AB 7500 Real-Time PCR instruments

2 – AB 9700 Thermocyclers

1 – QIAgen 4 – 16 centrifuge

At the end of the reporting period, the two AB 7500 instruments have been delivered, one to the St. Paul laboratory and one to the Bemidji Laboratory. Both instruments have been set-up by an AB technician. Validation studies are currently in progress to bring these instruments on-line. The AB 9700 thermocyclers and the QIAgen centrifuge have also been delivered and are already in use for casework.

Goal 4: No training events were attending with the use of grant funding during this reporting period.

Goal 5: Service contracts on all instrumentation was funded with 2009 DNA Backlog Reduction Grant through March 31, 2011. Beginning April 1, 2011, all instrumentation not covered under warranty was covered under a service contract with AB funded with the 2010 DNA Backlog Reduction Grant.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1a: The BCA Laboratory began using the grant to fund overtime for scientists to work on backlog cases during the pay period ending August 2. During this

report period, a total of 725 hours of overtime were claimed to work on part or all of 757 cases. This comprised approximately 48% of all cases reported by the BCA FSS during this reporting period.

- Goal 1b: The support position continued to be funded by the 2010 DNA Backlog Reduction Grant on a full time basis through the reporting period. The person in this position performed all quality control procedures on instruments and reagents and was responsible to keeping QC records for the section. As a result, DNA scientists would focus on casework.
- Goal 2: The BCA began using the grant to purchase supplies for DNA analysis in July. During this reporting period a total of \$88,922.05 of grant funding was used to purchase supplies. The majority of this funding was used to purchase amplification kits from Applied Biosystems and DNA extraction kits from Promega. The kits were not in wide spread use by the end of this grant period.
- Goal 3: No additional equipment was purchased with grant funding during this reporting period. Validations studies and performance checks were completed on all the instruments purchased during the previous reporting period and are now on-line for casework.
- Goal 4: Two BCA scientists attended the Promega International Symposium of Human Identification in Washington, D.C in October. Travel, lodge, meals, and registration fees for the symposium were paid using grant funding. One scientist attended a familial searching workshop and the other attended a workshop on mixture interpretation while at the symposium.
- Goal 5: All instrumentation not covered under warranty was covered under service contracts. Preventive Maintenance procedures were performed on all genetic analyzers in Bemidji and St. Paul during this reporting period. Also during this reporting period, the BCA Laboratory made use of a state agreement with Specialty Underwriters, Inc. to facilitate the service contracts with AB. This contract resulted in a savings in the overall cost of the service contracts to the State of Minnesota

Performance Measure Calculations: BCA scientists track the case numbers of the cases they work using overtime hours on their time books. These case numbers were transferred to a spreadsheet and a comparison was made to the spreadsheets used to track CODIS uploads and CODIS hits over the reporting period to which of these cases resulted in a profile being uploaded or a CODIS hit. All profiles uploaded CODIS were profiles entered into the Forensic Database and does not include any samples uploaded to the Offender Database, since no grant funding was used for offender samples. Supplies were purchased for DNA testing during this reporting period, but were not yet in widespread use by the end of December. Therefore no cases were counted as being worked with the supplies purchased with grant funding.

FINAL REPORT: January 1, 2012 – March 31, 2012 - Final

- Goal 1a: BCA DNA scientists claimed a total of 119 hours to perform analysis on part or all of 111 cases during this reporting period. This means that the grant provided a total of 844 hours of overtime that BCA scientists utilized to work on part or all of 868 cases. The number of cases worked with overtime hours during this

period (111) were not counted in the total number of cases analyzed with grant funding, as they would have been counted twice.

- Goal 1b: The Research Scientist 1 support position was funded by the 2010 DNA Backlog Reduction Grant on a full time basis through the pay period ending February 14, 2012. The person in this position performed all quality control procedures on instruments and reagents and was responsible to keeping QC records for the section. As a result, DNA scientists would focus on casework.
- Goal 2: The BCA FSS utilized grant funding to purchase a number of DNA amplification and quantitation kits from Applied Biosystems, as well as some miscellaneous consumable supplies used in DNA analysis during this reporting period. All cases in which DNA analysis was performed during this period utilized amplification, quantitation kits, or both, that were purchased with grant funding. Therefore, the number of cases reported as being analyzed and reported as a result of the grant is the total number of the cases in which DNA was performed.
- Goal 3: No additional equipment was purchased with grant funding during this reporting period. Validations studies and performance checks were completed on all the instruments purchased during the previous reporting period and are now on-line for casework.
- Goal 4: No BCA scientists attending training during this reporting period.
- Goal 5: All instrumentation not covered under warranty was covered under service contracts utilizing a State contract with Specialty Underwriters. No service calls were necessary on any instrumentation during this reporting period and all instruments were on-line for the entire period.

Performance Measure Calculations: All DNA cases analyzed and reported during this reporting period utilized supplies purchased with 2010 DNA Backlog Grant funding. Therefore, the number of cases reported in the performance metrics reflects the total number of DNA cases reported during this grant period. BCA scientists track the case numbers of the cases they work using overtime hours on their time books. However, cases worked with overtime funding were not included in totals for this period to avoid counting them twice.

The number of CODIS uploads represents the total number of samples uploaded to the forensic database during the reporting period and does not include any samples uploaded to the Offender Database, since no grant funding was used for offender samples. The number of CODIS hits attributed to the grant during this grant period was determined by comparing the case numbers from all CODIS hits (from the CODIS Scorecard) to the case numbers of all cases worked with grant funding during this period.

FY10 Recipient Name: St. Louis County, Missouri

Award Number: 2010-DN-BX-K149

Award Amount: \$170,244

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To maintain two full-time and one part-time biological screener and a part-time technician to assist with maintaining and/or reducing the turn-around-time and increase the number of eligible samples entered into the CODIS database.

Goal 2 - To purchase equipment to facilitate the implementation of a LIMS system.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 - To maintain two full-time and one part-time biological screener and a part-time technician to assist with maintaining and/or reducing the turn-around-time and increase the number of eligible samples entered into the CODIS database.

Progress (October 1, 2010 - December 31, 2010) Two full-time employees positions were maintained with grant funding. One employee finished her training program on December 7, 2010 and is working independently. The part-time biological screener, continues to assist the Biology/DNA unit. The part-time DNA technician, is still currently in training with an anticipated completion date of January 2011. Another employee has been on maternity leave since September 13th and is scheduled to return from leave in January 2011. The St. Louis County Crime Laboratory has seen an increase in turn-around-time for this reporting period. There are several factors which have negatively impacted the backlog. The DNA Unit has seen a 62 % increase in the number of cases submitted. The DNA technical leader gained additional duties in July, 2010 and has had limited time to handle casework samples. The St. Louis County Crime Laboratory is implementing a new LIMS system and this process has taken analysts away from casework. Despite all the factors above which negatively impact the backlog, the grant funded employees have assisted in making this significant increase in caseload a manageable task. The St. Louis County Crime Laboratory has seen an increase in the number of CODIS hits obtained.

Goal 2 - To purchase equipment to facilitate the implementation of a LIMS system.

Progress (October 1, 2010 – December 31, 2010) The Biology/DNA Unit is in the process of finalizing the configuration of the new LIMS system. Due to St. Louis County Purchasing Guidelines, no purchases can be made from October through mid-January. Once the restrictions are listed bids will be put out for the requested equipment.

* The performance metric data submitted for the July – December reporting period covers metrics from Oct. 1, 2010 – December 30, 2010. The 2010 DNA Backlog Reduction Grant started on Oct. 1, 2010. The July – Sept. metrics were reported under the 2009 DNA Backlog Reduction Grant.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - To maintain two full-time and one part-time biological screener and a part-time technician to assist with maintaining and/or reducing the turn-around-time and increase the number of eligible samples entered into the CODIS database.

Progress (January 1, 2011 – June 30, 2011) - All grant funded employees are currently fully trained and working independently. Despite the increase in cases submitted to the laboratory for analysis the turn-around-time decreased from 300 days to 264 days. The DNA Unit uploaded 178 samples to the CODIS database and received 73 hits for this reporting period. The DNA Unit is currently on track for a 22% increase in the number of CODIS Hits for 2011.

Goal 2 - To purchase equipment to facilitate the implementation of a LIMS system.

Progress (January 1, 2011 – June 30, 2011) - The LIMS system implementation has currently been put on hold due to unforeseen circumstances. The funds that were appropriated for the LIMS system implementation will now be used to purchase computer equipment to upgrade our current CODIS server to support the pending software upgrade. A purchase request has been made through departmental purchasing procedures for the CODIS equipment.

FINAL REPORT: October 1, 2010 – September 30, 2011

Goal 1 - To maintain two full-time and one part-time biological screener and a part-time technician to assist with maintaining and/or reducing the turn-around-time and increase the number of eligible samples entered into the CODIS database.

Progress (October 1, 2010 – September 30, 2011)

The two full-time and one part-time biological screener and part-time technician have completed 696 biology cases during this grant award. The part-time technician has also assisted the laboratory with administrative duties, reagent preparation and critical reagent analysis. The work performed by these grant funded individuals allows the DNA analysts to work full-time in the DNA unit. The St. Louis County Police Crime Laboratory Biology/DNA Unit saw a decrease in turn-around-time from 300 days to 190 days. This decrease in turn-around-time is partially due to limiting offenses which will be analyzed by the laboratory, however, without these grant funded individuals the full-time DNA analysts would also be required to screen all the cases which could potentially increase the turn-around-time to triple its current levels.

* The 696 cases completed noted under the final “optional” metric is for cases completed during the grant award period (October 1, 2010 – September 30th, 2011) by the grant funded biological screeners. The metrics reported for cases completed under the “optional” metrics for grant period October – December, 2010 and January – June, 2011 were reported for DNA cases completed only. During those grant periods the “optional” metrics were interpreted as being for DNA cases completed only due to samples per analyst only being reported for DNA in addition to the metric requesting CODIS upload information. The current statistical tracking mechanism the laboratory uses will not accurately accommodate capturing this information after the reporting period therefore, the “final” optional metric is the correct number of cases completed by grant funded analysts. It should be noted that the samples uploaded to CODIS and Hits obtained is still accurate for all reporting periods since all biological screening analysis is done by grant funded employees.

Goal 2 - To purchase equipment to upgrade our current CODIS server to support a CODIS software upgrade.

Progress (October 1, 2010 – September 30, 2011)

The FBI is in the process of upgrading the CODIS software used for DNA searches. The new software will be implemented by state, and minimum hardware requirements must be met to support the new software. A CODIS server, two client computers, a printer and associated computer parts were purchased and received by the laboratory. The state of Missouri is currently scheduled for the upgrade in early 2012 and our new server will be installed in concordance with the upgrade. The additional CODIS workstations and printer will be installed upon the completed background check of the designated computer services individual who is assigned to the laboratory for CODIS computer maintenance. This purchase will allow the continued use of the CODIS system for investigative purposes by the St. Louis County Police Crime Laboratory DNA Unit. Without this purchase, the DNA Unit

would not be able to use CODIS as an investigative aid which would be a great disservice to the citizens of St. Louis County.

FY10 Recipient Name: St. Louis Metro Police Department, Missouri

Award Number: 2010-DN-BX-K147

Award Amount: \$350,292

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 – Decrease backlog of DNA cases by hiring additional department employees

Goal 2 – Decrease backlog of cases by using overtime to screen evidence and perform DNA analysis.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 – Decrease backlog of DNA cases by hiring additional department employees

PROGRESS (Oct-Dec 2010) – The laboratory has one signed off DNA analyst and a new hire is set to start training in January. We are continuing to interview applicants to fill a third position.

Goal 2 – Decrease backlog of cases by using overtime to screen evidence and perform DNA analysis.

PROGRESS (Oct-Dec 2010) – Due to the ongoing 2009 DNA Backlog Reduction Grant, no work has commenced for the 2010 DNA Backlog Grant. Since there has been no completed DNA analysis as of this writing, no samples have been entered into CODIS to produce possible hits. We do anticipate CODIS entries and hits by the next reporting period. The laboratory still anticipates meeting the commitment of completing at least 350 cases by the end of the 2010 Grant period.

SLMPD would like to thank NIJ for making these funds available as well as all the support resources that are provided with this funding. The crime lab is more than satisfied with these results and will continue to have long term benefits from this funding.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 – Decrease backlog of DNA cases by hiring additional department employees

PROGRESS (Jan. 1 – June 30, 2011) – The laboratory has one DNA analyst in training. We are continuing to interview applicants to fill the other 2 positions. We had an analyst in training but she accepted another position. We hired the part-time analyst in mid-June. She is completely trained and continues to work as the CODIS assistant and DNA analyst. She has not completed any casework at this time as her time has been spent assisting the CODIS Administrator.

Goal 2 – Decrease backlog of cases by using overtime to screen evidence and perform DNA analysis.

PROGRESS (Jan. 1 – June 30, 2011) – In 2009 – 2010 the laboratory inventoried all its freezers with samples dating back to pre-1986 and researched all the cases. Any case within the statute of limitations that had not already been adjudicated and still had probative evidence was added to the DNA backlog. This increased our backlog numbers significantly. The project is ongoing and we expect to see a continued increase in the number of cases eligible for work under the Backlog Reduction Grant.

The laboratory however, has already met its commitment of completing at least 350 cases by the end of the 2010 Grant period. Overtime funds from the FY2010 grant were available starting 02/28/11 and these cases were completed using overtime funds as the analyst[s] hired with grant funds are still in training.

SLMPD would like to thank NIJ for making these funds available as well as all the support resources that are provided with this funding. The crime lab is more than satisfied with these results and will continue to have long term benefits from this funding.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 – Decrease backlog of DNA cases by hiring additional department employees
PROGRESS (July. 1 – December 31, 2011) – The laboratory has three DNA analysts hired and in training. We hired the part-time analyst in mid-June. She is completely trained and continues to work as the CODIS assistant and DNA analyst. She has not completed any casework at this time as her time has been spent assisting the CODIS Administrator.

Goal 2 – Decrease backlog of cases by using overtime to screen evidence and perform DNA analysis.

PROGRESS (July 1 – December 31, 2011) – In 2009 – 2010 the laboratory inventoried all its freezers with samples dating back to pre-1986 and researched all the cases. Any case within the statute of limitations that had not already been adjudicated and still had probative evidence was added to the DNA backlog. This increased our backlog numbers significantly. The project is ongoing and we expect to see a continued increase in the number of cases eligible for work under the Backlog Reduction Grant. The laboratory however, has already met its commitment of completing at least 350 cases by the end of the 2010 Grant period. Overtime funds from the FY2010 grant were available starting 02/28/11 and these cases were completed using overtime funds as the analyst[s] hired with grant funds are still in training.

SLMPD would like to thank NIJ for making these funds available as well as all the support resources that are provided with this funding. The crime lab is more than satisfied with these results and will continue to have long term benefits from this funding.

FINAL REPORT:

Goal 1 – Decrease backlog of DNA cases by hiring additional department employees
PROGRESS (October 1, 2010 – December 31, 2011) – The three DNA analysts hired and in training are expected to complete their training by the end of March or early April. Once signed off, it is expected that the backlog numbers will decrease. We hired the part-time analyst in mid-June. She is completely trained and continues to work as the CODIS assistant and DNA analyst. She has not completed any casework at this time as her time has been spent assisting the CODIS Administrator, however, she is in the process of beginning some casework.

Goal 2 – Decrease backlog of cases by using overtime to screen evidence and perform DNA analysis.

PROGRESS (October 1, 2010 – December 31, 2011) – In 2009 – 2010 the laboratory inventoried all its freezers with samples dating back to pre-1986 and researched all the cases.

Any case within the statute of limitations that had not already been adjudicated and still had probative evidence was added to the DNA backlog. This increased our backlog numbers significantly. The project is ongoing and we expect to see a continued increase in the number of cases eligible for work under the Backlog Reduction Grant. The laboratory however, has met its commitment of completing at least 350 cases by the end of the 2010 Grant period. Overtime funds from the FY2010 grant were available starting 02/28/11 and these cases were completed using overtime funds as the analyst[s] hired with grant funds are still in training. The turnaround time also increased dramatically. That was due to report review. This is expected to decrease in the future due to a reorganization of the job roles here in our laboratory.

SLMPD would like to thank NIJ for making these funds available as well as all the support resources that are provided with this funding. The crime lab is more than satisfied with these results and will continue to have long term benefits from this funding.

FY10 Recipient Name: St. Charles County, Missouri

Award Number: 2010-DN-BX-K148

Award Amount: \$36,866

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The primary objective of this DNA backlog reduction award is to increase the overall DNA analysis throughput of the SCCSDCL's DNA Section. Three goals for this award are:

- 1) Reduce the turnaround time for DNA cases to less than 55 days
- 2) Increase the average number of DNA samples analyzed per analyst to greater than 40/month
- 3) Reduce the DNA backlog by 20%

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The St. Charles County Sheriff's Department Criminalistics Laboratory [SCCSDCL] performed limited activity specifically related to this award during the period October 1 to December 31, 2010.

In addition to accepting the award, minimal supplies were purchased (pipette tips and one 3130 capillary array). These supplies have not yet been used for casework. Baseline data was provided for the Performance Metrics; however, since there was limited activity related to this award, no other data was reported and was indicated as "NA" in the report. Data for this period was included in the laboratory's FY09 Backlog Reduction semi-annual progress report. Once the overtime funding from the Lab's FY09 award is spent down (anticipated January 2011), funding from this FY10 award will be used for reimbursing overtime expenses as well as the purchase of additional supplies approved under this award.

The primary objective of this DNA backlog reduction award is to increase the overall DNA analysis throughput of the SCCSDCL's DNA Section. Three goals for this award are:

- 1) Reduce the turnaround time for DNA cases to less than 55 days
- 2) Increase the average number of DNA samples analyzed per analyst to greater than 40/month
- 3) Reduce the DNA backlog by 20%

These goals will be accomplished by using funding from this award to increase the overall efficiency of the DNA Section through the purchase of DNA supplies and analyst overtime to process DNA cases.

The SCCSDCL anticipates successful completion of this program within the grant period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The primary objective of this DNA backlog reduction program is to enhance the capacity and reduce the backlog of the St. Charles County Sheriff's Department Criminalistics Laboratory's (SCCSDCL) DNA Section through the prudent use of analyst overtime and the purchase of DNA testing supplies. Three goals for this award are:

- 1) Reduce the DNA backlog by 20%
- 2) Reduce the turnaround time for DNA cases to less than 55 days
- 3) Increase the average number of DNA samples analyzed per analyst to over 40/month

The SCCSDCL worked 197 hours of overtime under this award during the reporting period (January – June 2011) - after it completed working overtime under its previous DNA Capacity award (FY09). This included approximately 20 hours to validate the laboratory's new EZ-1 robot. During the reporting period gloves, pipet tips, a genetic analyzer capillary array and DNA extractors were purchased and used for casework analysis.

Goal #1: At the end of the reporting period the DNA backlog was 302 cases. An increase of 28% since the beginning of the award period.

Goal #2: At the end of the reporting period the turnaround time was 156 days.

Goal #3: The average number of samples analyzed/analyst/month was 24 at the end of the reporting period and was 45 for February and March 2011.

Circumstances Affecting Goals: The number of DNA cases submitted for analysis has remained steady as compared to the first 6 months of 2010. Time spent on EZ-1 validation, rewriting manuals and updating DNA protocols pulled analysts away from some of their casework responsibilities. Towards the end of the reporting period one of the Lab's DNA analysts was pulled away from DNA responsibilities to spend significant time working cases in another discipline. This left only one analyst to work DNA cases.

The SCCSDCL anticipates successful completion of this project by the end of the project period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The primary objective of this DNA backlog reduction program is to enhance the capacity and reduce the backlog of the St. Charles County Sheriff's Department Criminalistics Laboratory's (SCCSDCL) DNA Section through the prudent use of analyst overtime and the purchase of DNA testing supplies. Three goals for this award are:

- 1) Reduce the DNA backlog by 20%
- 2) Reduce the turnaround time for DNA cases to less than 55 days
- 3) Increase the average number of DNA samples analyzed per analyst to over 40/month

The SCCSDCL worked 210.5 hours of overtime under this award during the reporting period (July – December 2011). This included approximately 20 hours spent validating a new amplification kit (ID+) and the laboratory's 3130 genetic analyzer. During the reporting

period pipet tips, reaction tubes & strips, septa, and genetic analyzer capillary arrays were purchased and for casework analysis.

Goal #1: At the end of the reporting period the DNA backlog was 516 cases (less than 5% are crimes against persons).

Goal #2: At the end of the reporting period the average turnaround time was 100 days. A decrease of 36% from last reporting period.

Goal #3: The average number of samples analyzed/analyst/month was 31 for the reporting period. An increase of 25% from the last reporting period.

Circumstances Affecting Goals: The number of DNA cases (particularly property crimes) submitted for analysis has increased significantly as compared to the first 6 months of 2010. Time spent on validation, updating DNA manuals & protocols and an internal DNA audit pulled analysts away from casework responsibilities. Additionally, one of the Lab's two DNA analysts was pulled away from DNA responsibilities to spend significant time working cases and training an analyst in another discipline. This left only one analyst to work DNA cases. The SCCSDCL anticipates successful completion of this project by the end of the project period.

FINAL REPORT:

The primary objective of this DNA backlog reduction program is to enhance the capacity and reduce the backlog of the St. Charles County Sheriff's Department Criminalistics Laboratory's (SCCSDCL) DNA Section through the prudent use of analyst overtime and the purchase of DNA testing supplies. Three goals for this award are:

- 1) Reduce the DNA backlog by 20%
- 2) Reduce the turnaround time for DNA cases to less than 55 days
- 3) Increase the average number of DNA samples analyzed per analyst to over 40/month

The SCCSDCL worked 503 hours of overtime under this award from February 2011 thru March 2012. This included approximately 20 hours spent validating a new amplification kit (ID+) and the laboratory's 3130 genetic analyzer. During the project period pipet tips, reaction tubes & strips, septa, and genetic analyzer capillary arrays were purchased for casework analysis.

Goal #1: At the end of the project period the DNA backlog was 493 cases (less than 5% are crimes against persons).

Goal #2: At the end of the project period the average turnaround time was 228 days. The average during the entire project was 161 days.

Goal #3: The average number of samples analyzed/analyst/month was 43 at the end of the project period. An increase of almost 80% from the beginning of the project period.

Circumstances Affecting Goals:

The extreme increase in the number of DNA cases (particularly property crimes) submitted for analysis during the project period as compared to early 2010 - when the application was written and the goals/objectives established for this project - directly contributed to the rise in the DNA case backlog. Time spent on validation, updating DNA manuals & protocols and an internal DNA audit pulled analysts away from casework responsibilities during the project. Additionally, one of the Lab's two DNA analysts was pulled away from DNA responsibilities to spend significant time working cases and training an analyst in another discipline. This left only one analyst to work DNA cases during several months of the project period. These factors decreased

the number of cases that could be analyzed and contributed to an increase in the turnaround time. An emphasis on working some of the older backlogged DNA property crime cases during the first 3 months of 2012 also directly contributed to a sharp rise in the turnaround time at the end of the project period.

FY10 Recipient Name: Missouri State Highway Patrol

Award Number: 2010-DN-BX-K173

Award Amount: \$433,826

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

A goal of this program is to leverage the automation capacity of our laboratory to facilitate an increase in throughput and a decrease in backlogs. A tangential goal of automation of the DNA procedure is to allow casework Criminalists more time for the decision-making and interpretation steps essential to the analysis process.

It is anticipated that the purchase of an eight-capillary Genetic Analyzer, supplies and the funding to cover our annual maintenance agreements for 10 instruments will help us achieve our goals of reducing our backlog by 30% and reducing our average turnaround below 200 days. We would anticipate completing an additional 635 cases in house in 18 months. Using the Federal funding requested under this FY2010 program should reduce the backlog by 30%. Currently our average DNA Sample throughput per criminalist per month is 20 samples. In addition to our efforts to reduce the backlog by 30%, our goal would be to increase our sample throughput by 30% as well to 26 samples per criminalist per month

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Purpose, Goals, and Objectives: The overall goals of the program are to leverage the laboratory's automation capacity in order to reduce the backlog by 30%, and increase our sample throughput to 26 samples per criminalist per month.

Progress update: Since October 1, 2010 under this award (2010-DN-BX-K173), we have purchased \$39,753.15 in consumables and have put out for bid on a microscope.

Program challenges: Monthly DNA case submissions continue to increase at an alarming rate. Validating and learning all of our new technology and bioinformatics (obtained from previous grants) has become a challenge. Moving people off casework to focus on validation is a delicate balancing act. At the present time we currently have three validation projects ongoing.

We are making significant changes under these grant programs; however, validation and changing workflow is time consuming and challenging. Our backlogs and turnaround are currently suffering as we accomplish these tasks. Our hope is that when finally implemented, the changes under these grant programs will significantly improve our workflow and enable to better meet these challenges.

Conclusions: We have only begun spending down this grant, most of our focus of this grant was to purchase consumables to leverage our automation capacity once up and running. We are on pace to be up and running with our automation and informatics in the first quarter of 2011. At that point, we plan to purchase a 3500 genetic analyzer to further increase our capacity.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Purpose, Goals, and Objectives The overall goals of the program are to leverage the laboratory's automation capacity in order to reduce the backlog by 30%, and increase our sample throughput to 26 samples per criminalist per month.

Progress update Since January 1, 2011 under this award (2010-DN-BX-K173), we have purchased an additional \$28,786.75 in consumables, purchased two comparison microscopes, maintenance contracts for fourteen instruments and a 3500 Genetic Analyzer.

Program challenges Monthly DNA case submissions continue to increase at an alarming rate. Validating and learning all of our new technology and bioinformatics (obtained from previous grants) has become a challenge. Moving people off casework to focus on validation is a delicate balancing act. At the present time we currently have three validation projects ongoing.

We are making significant changes under these grant programs; however, validation and changing workflow is time consuming and challenging. Our backlogs and turnaround are currently suffering as we accomplish these tasks. Our hope is that when finally implemented, the changes under these grant programs will significantly improve our workflow and enable to better meet these challenges.

Conclusions We have made significant progress spending down this grant, most of our focus of this grant was to purchase consumables to leverage our automation capacity once up and running. We had a goal of being up and running with our automation and informatics in the first quarter of 2011. As of June 1, 2011 we were up and running with our Tecan robotic workstation. Our STaCS LIMS is project is nearing completion; during implementation we required some additional customization that pushed us back a couple months. We should have STaCS and the Tecan integrated very soon. We purchased a 3500 genetic analyzer for Cape Girardeau to further increase our capacity for multicapillary instruments. We anticipate beginning validation on that instrument in August.

Change request: Originally we reported 1546 cases completed Jan-Jun 2011. That number was reported in error. We capture a variety of metrics. The 1546 was the number of reports we produced. As many cases may have multiple reports (eg. stain id, CODIS, additional references, etc.), that number does not reflect the number of cases worked. From Jan-Jun, 2011 we worked 873 total cases. We do not do overtime or outsourcing, so these DNA cases were all worked with supplies purchased from the grant.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Purpose, Goals, and Objectives: The overall goals of the program are to leverage the laboratory's automation capacity in order to reduce the backlog by 30%, and increase our sample throughput to 26 samples per criminalist per month.

Progress update: Prior to July 1, 2011 many of the major purchases under this award had been acquired. Since July 1, 2011 we have focused on purchasing supplies to support ongoing casework.

The purchase of an AB 3500 Genetic Analyzer under this award in May, 2011 has initiated a validation project for our Cape Girardeau laboratory. The main validation for the 3500 in our system is being completed in Cape Girardeau, which will enable us to effect performance checks of the 3500's at our other labs once procured.

Program challenges: Monthly DNA case submissions continue to increase. Moreover, the numbers of samples submitted per case is rising. Validating new technologies is a

continuous challenge. Moving people off casework to focus on validation is a delicate balancing act. Presently we have three validation projects ongoing in addition to trying to implement STaCS DNA.

We are making significant changes under these grant programs; however, validation and changing workflow is time consuming and challenging. Our backlogs and turnaround are currently suffering as we accomplish these tasks. Our hope is that when finally implemented, the changes under these grant programs will significantly improve our workflow and enable to better meet these challenges.

Conclusions: We made significant progress spending down this grant in the early part of the year. Most of our focus during the latter half of the year was to purchase consumables to leverage our automation capacity. Our STaCS LIMS project will be implemented the first week in January 2012 and the 3500 Genetic Analyzer purchased under this award should be completely validated by the end of January 2012. We anticipate an early closeout of this award.

Although we have been unsuccessful so far in our attempts to significantly reduce backlog, we have been able to increase our average samples per criminalist per month to 28 which surpasses our goal of 26.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Purpose, Goals, and Objectives: The overall goals of the program are to leverage the laboratory's automation capacity in order to reduce the backlog by 30%, and increase our sample throughput to 26 samples per criminalist per month.

Progress update: Much of this grant was spent down prior to January 1, 2012. Since January 1, 2012 we have focused on purchasing supplies to support ongoing casework.

During this reporting period we completed the validation of the AB 3500 Genetic Analyzer purchased under this award in May, 2011 for our Cape Girardeau laboratory. We anticipate competency testing and putting this instrument on-line on or about April 1, 2012.

Program challenges: Validating new instruments and methods during this grant period was challenging. Moreover during this grant period we lost two Criminalists and had to hire replacements who are in training and are not productive yet.

Our backlogs and turnaround time are suffering as we complete these validations and train new employees.

Conclusions: We made significant progress spending down this grant; however due to the aforementioned challenges, our goals for turnaround time, sample throughput and backlog reduction are largely unmet.

FINAL REPORT:

Purpose, Goals, and Objectives: The overall goals of the program are to leverage the laboratory's automation capacity in order to reduce the backlog by 30%, and increase our sample throughput to 26 samples per criminalist per month.

Progress update: Since October 1, 2010, under this award (2010-DN-BX-K173), we have purchased \$132,331.88 in consumables, two comparison microscopes, maintenance contracts for fourteen instruments and a 3500 Genetic Analyzer.

During the July-December 2011 reporting period we exceeded our sample throughput goal by analyzing an average of 28 samples per criminalist and nearly doubled our case output.

The AB 3500 Genetic analyzer purchased for the Cape Girardeau Laboratory is validated and we anticipate starting case work on it in April, 2012.

Program challenges: Monthly DNA case submissions continue to increase at an alarming rate. Moreover, the numbers of samples submitted per case are rising as well. Validating new technologies is a continuous challenge and moving people off casework to focus on validation is a delicate balancing act. During the course of this grant we had three validation projects ongoing in addition to trying to implement STaCS DNA.

In addition to the aforementioned challenges, we had two criminalists leave during this grant period, which required us to hire replacements and begin training them. Training and validations pull criminalists from doing casework; as such, backlogs and turnaround suffer.

Conclusions: We made significant progress spending down this grant and with those monies were able to purchase supplies and maintenance contracts to maximize up-time of our instruments and casework. Although we were able to build some capacity, our goals for turnaround time, sample throughput and backlog reduction were not met.

Despite not meeting casework goals, with this funding we were able to complete several validation projects that we hope will increase throughput in the near future.

FY10 Recipient Name: Board of Police Commissioners, Kansas City, Missouri

Award Number: 2010-DN-BX-K163

Award Amount: \$389,367

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To utilize grant funded personnel and overtime for laboratory personnel to screen cases for biological evidence.

Goal 2: To utilize grant funded personnel and overtime for laboratory personnel for DNA analysis.

Goal 3: To utilize two contract technicians to assist in the DNA analysis process and to screen cases for biological evidence.

Goal 4: To acquire CODIS workstations for each DNA analyst.

Goal 5 - To contract the validation of Identifiler Plus.

Goal 6 - To further customize the LIMS for biological screening and DNA analysis.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: To utilize grant funded personnel and overtime for laboratory personnel to screen cases for biological evidence.

Progress Oct-Dec 10 - In this reporting period, only one of the two grant funded personnel designated to screen biological cases was hired. She was able to screen 16 cases in this time for biological evidence. Only a few hours of overtime were worked in this period with no cases completed.

Goal 2: To utilize grant funded personnel and overtime for laboratory personnel for DNA analysis.

Progress Oct-Dec 10: In this reporting period, the grant funded person designated for DNA analysis was hired. She is currently completing her training to become a fully qualified analyst and is expected to be completed January 31st. Only a few hours of overtime were worked in this period with no cases completed.

Goal 3: To utilize two contract technicians to assist in the DNA analysis process and to screen cases for biological evidence.

Progress Oct-Dec 10 - In this reporting period, the two contract technicians processed 146 known DNA standards. Additionally, they screened 126 cases for biological evidence.

Goal 4: To acquire CODIS workstations for each DNA analyst.

Progress Oct-Dec 10 - In this reporting period, quotations were requested for the necessary equipment to meet the laboratories specifications. Submission of purchase requisitions is still pending consultation with the department's IT department.

Goal 5 - To contract the validation of Identifiler Plus.

Progress Oct-Dec 10 - No progress was made on this goal during this reporting period.

Goal 6 - To further customize the LIMS for biological screening and DNA analysis.

Progress Oct-Dec 10 - Areas for improvement within the LIMS are currently being identified.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- - *Goal 1 – To utilize grant funded personnel and overtime for laboratory personnel to screen cases for biological evidence.*
 - - Progress Oct-Dec 2010 – In this reporting period, only one of the two grant funded personnel designated to screen biological cases was hired. She was able to screen 16 cases in this time for biological evidence. Only a few hours of overtime were worked in this period with no cases completed.
 - - Progress Jan-Jun 2011 - In this reporting period, a total of 2 biological screeners and two contract DNA technicians screened cases, with two additional grant-funded screeners coming online May 1st, for a total of 243 cases screened. 45 hours of overtime were worked for the screening of biological evidence for a total of 17 cases.
- - *Goal 2 – To utilize grant funded personnel and overtime for laboratory personnel for DNA analysis.*
 - - Progress Oct-Dec 10– In this reporting period, the grant funded person designated for DNA analysis was hired. She is currently completing her training to become a fully qualified analyst and is expected to be completed January 31st. Only a few hours of overtime were worked in this period with no cases completed.
 - - Progress Jan-Jun 11 – In this reporting period, the grant funded person became a qualified DNA analyst and completed 78 cases. Approximately 336 hours of overtime were worked in this reporting period with 116 cases completed utilizing this overtime.
- - *Goal 3 – To utilize two contract technicians to assist in the DNA analysis process and to screen cases for biological evidence.*
 - - Progress Oct-Dec 10 – In this reporting period, the two contract technicians processed 146 known DNA standards. Additionally, they screened 126 cases for biological evidence.
 - - Progress Jan-Jun 11 – In this reporting period, the two contract technicians processed 550 reported known DNA standards. Additionally, they screened 138 cases for biological evidence.
- - *Goal 4 – To acquire CODIS workstations for each DNA analyst.*
 - - Progress Oct-Dec 10 – In this reporting period, quotations were requested for the necessary equipment to meet the laboratories specifications. Submission of purchase requisitions is still pending consultation with the department's IT department.

- - Progress Jan-Jun 11 – In this reporting period, all CODIS workstations were received and installed by the department’s IT division at each qualified DNA analyst’s work area. Goal Completed.
- - *Goal 5 – To contract the validation of Identifiler Plus.*
 - Progress Oct-Dec 10 – No progress was made on this goal during this reporting period.
 - Progress Jan-Jun 11 – No progress was made on this goal during this reporting period.
- - *Goal 6 – To further customize the LIMS for biological screening and DNA analysis.*
 - - Progress Oct-Dec 10 – Areas for improvement within the LIMS are currently being identified.
 - - Progress Jan-Jun 11 – No areas requiring improvement within the LIMS have been identified to date.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011*

**Many goals only evaluated Jul-Nov 11, except for overtime and contract personnel (technicians and part time) as the FY11 grant initiated Dec 1, 2011.*

- - *Goal 1 – To utilize grant funded personnel and overtime for laboratory personnel to screen cases for biological evidence.*
 - - Progress Oct-Dec 2010 – In this reporting period, only one of the two grant funded personnel designated to screen biological cases was hired. She was able to screen 16 cases in this time for biological evidence. Only a few hours of overtime were worked in this period with no cases completed.
 - - Progress Jan-Jun 2011 - In this reporting period, a total of 2 biological screeners and two contract DNA technicians screened cases, with two additional grant-funded screeners coming online May 1st, for a total of 243 cases screened. 45 hours of overtime were worked for the screening of biological evidence for a total of 17 cases.
 - - Progress Jul-Dec 2011: In this reporting period, a total of five grant-funded personnel were screening cases for a total of 168 cases. Approximately 205 hours of overtime were worked during this period used to screen 14 cases.
- - *Goal 2 – To utilize grant funded personnel and overtime for laboratory personnel for DNA analysis.*
 - - Progress Oct-Dec 10– In this reporting period, the grant funded person designated for DNA analysis was hired. She is currently completing her training to become a fully qualified analyst and is expected to be completed January 31st. Only a few hours of overtime were worked in this period with no cases completed.
 - - Progress Jan-Jun 11 – In this reporting period, the grant funded person became a qualified DNA analyst and completed 78 cases. Approximately 336 hours of overtime were worked in this reporting period with 116 cases completed utilizing this overtime.
 - - Progress Jul-Dec 11 – In this reporting period, the grant funded qualified DNA analyst completed 89 DNA cases. Approximately 323 hours of overtime were worked during this period used to complete 105 DNA cases.
- - *Goal 3 – To utilize two contract technicians to assist in the DNA analysis process and to screen cases for biological evidence.*
 - - Progress Oct-Dec 10 – In this reporting period, the two contract technicians processed 146 known DNA standards. Additionally, they screened 126 cases for biological evidence.

- - Progress Jan-Jun 11 – In this reporting period, the two contract technicians processed 550 reported known DNA standards. Additionally, they screened 138 cases for biological evidence.
- - Progress Jul-Dec 11 – In this reporting period, the contract technicians processed 625 Known DNA standards and screened 111 cases for biological evidence.
- - *Goal 4 – To acquire CODIS workstations for each DNA analyst.*
 - - Progress Oct-Dec 10 – In this reporting period, quotations were requested for the necessary equipment to meet the laboratories specifications. Submission of purchase requisitions is still pending consultation with the department's IT department.
 - - Progress Jan-Jun 11 – In this reporting period, all CODIS workstations were received and installed by the department's IT division at each qualified DNA analyst's work area. Goal Completed.
- - *Goal 5 – To contract the validation of Identifiler Plus.*
 - - Progress Oct-Dec 10 – No progress was made on this goal during this reporting period.
 - - Progress Jan-Jun 11 – No progress was made on this goal during this reporting period.
 - - Progress Jul-Dec 11 - This goal was removed during the revision of this grant during July 2011.
- - *Goal 6 – To further customize the LIMS for biological screening and DNA analysis.*
 - - Progress Oct-Dec 10 – Areas for improvement within the LIMS are currently being identified.
 - - Progress Jan-Jun 11 – No areas requiring improvement within the LIMS have been identified to date.
 - - Progress Jul-Dec 11 – This goal was removed during the revision of this grant during July 2011 since there were no areas identified that required additional LIMS improvement.
- - *Goal 7 – To purchase equipment to aid in the efficiency of the DNA extraction process (revision 11-2011).*
 - - Progress Jul-Dec 2011 – In this reporting period, the Vacuum Centrifuge Concentrator, Thermomixer and associated blocks were received and validated for implementation by 1/1/12.
- - *Goal 8 – To purchase additional equipment for the DNA/Trace sections (revision 11-2011).*
 - - Progress Jul-Dec 2011 - In this reporting period, the purchase requisition for the instrument protection system from Franek was prepared. The cameras were procured and received in the laboratory.
- - *Goal 9 – Contract position for a part-time contract DNA position (revision 11-2011).*
 - - Progress Jul-Dec 2011 – In this reporting period, this position was filled. Of the 775 hours allotted, 75.25 hours were utilized.

PROGRESS REPORT 4 (FINAL): January 1, 2012 – June 30, 2012

**Only active goals during this time period were overtime during January 2012 and contract personnel as the FY11 grant initiated on Dec 1, 2011.*

- - *Goal 1 – To utilize grant funded personnel and overtime for laboratory personnel to screen cases for biological evidence.*
 - - Progress Jan-Jun 12 (Final): In this reporting period, the remainder of the overtime hours (>141 hours, in combination with DNA in goal 2) were used to screen 3 cases. All grant funded employees were screening on the FY2011 grant.

- Goal complete – A total of 34 cases were screened using overtime funds (15 cases was goal). The grant funded personnel screened 427 cases (260 total cases was goal).
- - *Goal 2 – To utilize grant funded personnel and overtime for laboratory personnel for DNA analysis.*
 - - Progress Jan-Jun 12 (Final): In this reporting period, the remainder of the overtime hours (>141 hours) were used to help complete (along with screening in Goal 1) 23 DNA cases. Goal complete – 244 DNA cases worked on overtime funds (150 cases was goal); 167 DNA cases were worked by the grant funded DNA analyst. The total cases delivered from overtime funds = 263 cases
 - - *Goal 3 – To utilize two contract technicians to assist in the DNA analysis process and to screen cases for biological evidence.*
 - - Progress Jan-Jun 12 (Final) - In this reporting period, the contract technician remaining on the 2010 grant screened 20 cases for biological evidence (no Known DNA standards were processed).
 - - Goal complete – A total of 1321 Known DNA standards were processed on this grant while 395 cases were screened by contract technicians (goals of 600 standards and 25 screened cases).

Goals 4, 5, 6, 7, 8 and 9 were either previously completed or removed during revisions.

FY10 Recipient Name: Mississippi Department of Public Safety

Award Number: 2010-DN-BX-K044

Award Amount: \$387,663

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The objectives of this project are to improve the MCL system's DNA laboratory infrastructure and analytical capacity. This can only be achieved if we are able to continue the employment of four individuals whose jobs will be lost with the ending of existing grants. The Mississippi Crime Laboratory intends to achieve the objectives by accomplishing the following goals:

Goal 1: Maintain the improved turnaround-time for DNA cases that has been achieved

Goal 2: Increase DNA analysis throughput

Goal 3: Continue to support the development of the Mississippi Convicted Offender Data Base and CODIS by the purchase of Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction.

Goal 4: Maintain the effectiveness of the DNA Unit by funding continued employment of four individuals whose jobs would be lost at the close of existing grants

Goal 5: Provide the required continuing education for existing DNA staff

Goal 6: Provide equipment and supplies for the new Gulf Coast Laboratory DNA unit.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

No project funds have been spent during this reporting period and no goals have been met to date.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Two Forensic Biologists I were being paid with funds from a program which ended in Dec 2010. Both Individuals are being retained with funds from the FY 2010 Forensic DNA Backlog Reduction Program. \$37,519 has been expended for their salaries for Jan – June 2011. Fringe Benefits Expenditures for the two employees for that period were \$11,628.

Another employee of the Mississippi Crime Laboratory as a Forensic Biology Trainee. Funding for his position ended March 31, 2011. He is now being paid with funds from the FY 2010 Forensic DNA Backlog Reduction Program. His salary for the month of April was \$2,679 with Fringe Benefits for the month of \$885.

Total expenditures in the Personnel Category for the reporting period were \$52,632.

Goal #4 is being met.

Planning for the required continuing education of five existing DNA staff members has begun. Meeting Registration of \$620 each for the 21st International Symposium of Human Identification (Promega) has been paid for a total expenditure from the Other Category of \$3,100. Airline tickets have been purchased for five individuals at a cost of \$2,925 from the Travel Category.

Goal #5 is being met.

Turn-around-time at the beginning of the award was 26 days and at the end of the reporting period was 19 days.

Goal #1 is being met.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

One of the stated goals of the program is to maintain the effectiveness of the DNA Unit by funding continued employment of four individuals whose jobs would be lost at the close of existing grants. Funds were budgeted to cover the Salaries and Fringe Benefits of these four individuals through June of 2012. Since, the end date of the grant was March 30, 2012, it was necessary to request an extension of the Project Period. This request was granted and the end date of the project is now September 30, 2012. This will allow all Personnel and Fringe Benefit Funds to be expended as planned and assure that the goals of the project will be met.

Four individuals are being retained with funds from the FY 2010 Forensic DNA Backlog Reduction Program: Forensic Biology Trainee, Forensic Biologists I, and the second Forensic Biologists I, who was promoted to Forensic Biologists II in October, and Forensic Biologists V. \$81,373 was expended for their salaries for July – December 2011. Fringe Benefits Expenditure for the four employees for that period was \$24,194.

Total expenditure in the Personnel Category for the reporting period was \$105,567.

Goal #4 is being met.

Training for five existing DNA staff members was provided at the 21st International Symposium of Human Identification (Promega). The Airline tickets and Meeting Registrations for the five individuals had been purchased during the previous reporting period. \$6133 for additional travel expenses was spent from the Travel Category during this reporting period.

Goal #5 has been met.

Turn-around-time at the beginning of the award was 26 days and at the end of the reporting period was 20 days. The backlog of unworked cases at the beginning of the award was 70 and at the end of the reporting period was 36.

Goals #1 and #2 are being met.

A microscope has been purchased for the new Gulf Coast Laboratory DNA unit for \$5863 and two Polilights have been ordered.

Goal #6 is being met.

A Budget Modification was approved in November of 2011 addressing changing needs of the laboratory in which the focus of Goal #3 was changed from validating new DNA analysis technologies to continuing to support the development of the Mississippi Convicted Offender Data Base and CODIS by the purchase of Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction.

Goal #3 is being met.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

In preparation for closing the grant we requested a GAN to reconcile small expenditure overages in certain budget categories and unexpended funds remaining in another category. This no cost budget adjustment was approved.

Goal #1: Maintain the improved turnaround-time for DNA cases that has been achieved

The improved turn-around-time for DNA cases has not only been maintained but average turn-around-time for DNA cases decreased from 19 days at the beginning of the award period to 16 days at the end of the reporting period.

Goal #1 has been met.

Goal #2: Increase DNA analysis throughput

DNA analysis throughput has increased with decreasing turn-around-time and should increase further when additional analysts complete their training.

Goal #2 is being addressed.

Goal #3: Continue to support the development of the Mississippi Convicted Offender Data Base and CODIS by the purchase of Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction.

\$59,244 was spent during this reporting period for Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction. \$2,506 remains in the Other category of the revised budget to be spent for additional kits. These kits have been ordered. When that purchase has been finalized, the grant can be closed.

Goal #3 has been met.

Goal #4: Maintain the effectiveness of the DNA Unit by funding continued employment of four individuals whose jobs would be lost at the close of existing grants

Four individuals are being retained with funds from the FY 2010 Forensic DNA Backlog Reduction Program. \$88,171 was expended for their salaries for January – June 2012. Fringe Benefits expenditure for the four employees for that period was \$26,358. Total expenditure in the Personnel Category for the reporting period was \$114,529. Beginning with the month of July, the four individuals will be paid from the FY 2011 Forensic DNA Backlog Reduction Program.

Goal #4 has been met.

Goal #5: Provide the required continuing education for existing DNA staff

Training for five existing DNA staff members was provided at the 21st International Symposium of Human Identification (Promega) during previous reporting periods. \$9,057 was spent from the Travel Category and \$3100 from the Other Category for registration fees during previous reporting periods.

Goal #5 has been met.

Goal #6: Provide equipment and supplies for the new Gulf Coast Laboratory DNA unit.

During this reporting period, \$35,062 was expended to purchase two Polilight PL500 Watt systems bringing the total funds spent to provide equipment for the new Gulf Coast Laboratory DNA unit to \$40,924.

Goal #6 has been met.

PROGRESS REPORT 5: July 1, 2012 – September 30, 2012

Goal #1: Maintain the improved turnaround-time for DNA cases that has been achieved

The improved turn-around-time for DNA cases has not only been maintained but average turn-around-time for DNA cases decreased from 26 days at the beginning of the award period to 16 days at the end of the reporting period.

Goal #1 has been met.

Goal #2: Increase DNA analysis throughput

DNA analysis throughput has increased with decreasing turn-around-time. The average number of samples analyzed per analyst per month for this reporting period was 53 a significant increase over the previous reporting period. This should increase further when additional analysts complete their training and the required modifications of the Bioscience area in the new Gulf Coast Laboratory are complete.

Goal #2 has been met.

Goal #3: Continue to support the development of the Mississippi Convicted Offender Data Base and CODIS by the purchase of Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction.

During this reporting period \$2,306 was spent for additional kits completing the expenditure of all grant funds.

Goal #3 has been met.

Goal #4: Maintain the effectiveness of the DNA Unit by funding continued employment of four individuals whose jobs would be lost at the close of existing grants

Beginning with the month of July, the four individuals have been paid from the FY 2011 Forensic DNA Backlog Reduction Program.

Goal #4 was met as reported in previous reporting periods.

Goal #5: Provide the required continuing education for existing DNA staff

Goal #5 was met as reported in previous reporting periods.

Goal #6: Provide equipment and supplies for the new Gulf Coast Laboratory DNA unit.

Goal #6 was met as reported in previous reporting periods.

FINAL REPORT:

Goal #1: Maintain the improved turnaround-time for DNA cases that has been achieved

The improved turn-around-time for DNA cases has not only been maintained but average turn-around-time for DNA cases decreased from 26 days at the beginning of the award period to 16 days at the end of the final reporting period.

Goal #1 has been met.

Goal #2: Increase DNA analysis throughput

DNA analysis throughput has increased with decreasing turn-around-time. The average number of samples analyzed per analyst per month for the final reporting period was 53, a significant increase over the previous reporting period. Throughput should increase further when additional analysts complete their training and the required modifications of the Bioscience area in the new Gulf Coast Laboratory are complete.

Problems with the new Gulf Coast Laboratory building particularly in the Bioscience area have been a challenge. Many of these problems have been corrected and those that remain are being addressed.

Goal #2 has been met.

Goal #3: Continue to support the development of the Mississippi Convicted Offender Data Base and CODIS by the purchase of Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction.

\$59,243.60 was spent previously for Convicted Offender Buccal Swab Collection Kits for use by the Mississippi Department of Correction. During this reporting period \$2,304 was spent for additional kits completing the expenditure of all grant funds.

Goal #3 has been met.

Goal #4: Maintain the effectiveness of the DNA Unit by funding continued employment of four individuals whose jobs would be lost at the close of existing grants

Four individuals were retained with funds from the FY 2010 Forensic DNA Backlog Reduction Program. The total amount of grant funds expended for their salaries was \$209,741.77. Total Fringe Benefits expenditure for the four employees was \$63,290.74. Beginning with the month of July 2012, the four individuals have been paid from the FY 2011 Forensic DNA Backlog Reduction Program.

Goal #4 has been met.

Goal #5: Provide the required continuing education for existing DNA staff

Training for five existing DNA staff members was provided at the 21st International Symposium of Human Identification (Promega) during previous reporting periods. \$9,057 was spent from the Travel Category and \$3100 from the Other Category for registration fees.

Goal #5 has been met.

Goal #6: Provide equipment and supplies for the new Gulf Coast Laboratory DNA unit.

A microscope was purchased for the Gulf Coast Laboratory DNA unit for \$5863 and two Polilight PL500 Watt systems were purchased for \$35,062 bringing the total funds spent to provide equipment for the new Gulf Coast Laboratory DNA unit to \$40,924.

Goal #6 has been met.

A major success of the project was to enable MCL to maintain the effectiveness of the DNA Unit by funding continued employment of four individuals whose jobs would have been lost at the close of existing grants, one

Forensic Biologist I, two Forensic Biologists II, and one Forensic Biologist V.

FY10 Recipient Name: Montana Department of Justice

Award Number: 2010-DN-BX-K157

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goals and objectives of the project include:

- i) a reduction in forensic DNA sample turn-around-time,
- ii) an increase in forensic DNA sample throughput and
- iii) a decrease in the forensic DNA casework backlog.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Limited progress has been made towards the goals and objectives for this grant due to the resignation of the DNA technician to be paid from this funding and due to a laboratory construction project that displaced the DNA section around December 15, 2010. The project is scheduled to continue through the end of February 2011.

Case turn-around-time improved slightly from 115 days to 111 days. Sample throughput saw an unusual spike in the number of samples at the beginning of the grant period (48 per analyst per month versus 38 per analyst per month at the end of the reporting period). The 38 sample number is more reflective of a general increase in throughput from earlier reporting periods. The number of backlogged DNA cases improved slightly from 59 to 56 cases backlogged.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this reporting period, the HVAC re-engineering project was completed and the Serology/DNA section was brought back on-line in mid-March of this year. Additionally, one of our two serologists was out on maternity leave for 3 months. Current forensic sample turn-around-time is 112 days. The turn-around-time has been maintained in part by allowing the backlog of property crime cases to increase (total backlog now at 73 cases) as work was focused on person crimes. Forensic sample throughput dipped back to 33 samples per analyst per month primarily due to the types of cases being processed. As no funds have been used for casework purposes during this reporting period for the reasons listed above, no profiles have been added to CODIS and no hits from CODIS have been obtained.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Current forensic sample turn-around-time is 111 days which has remained steady throughout the project period. Forensic sample throughput is at 39 samples per analyst per month. With the exception of a spike in the initial reporting period, this measure has remained consistent and consistently above this measure from previous project periods (which was in the 20s). Current case backlog is 91 cases. This value is up from previous reporting periods. Case submissions as well as the types of cases submitted (person vs. property) has remained steady. However, during this period we have begun validation on three DNA extraction robots that were recently purchased with FY09 DNA Backlog Reduction Grant Funds (the studies are about 50% completed) and are instituting a recently validated expert system for convicted offender sample processing which will increase the time for our Serologist/CODIS DNA Technicians to focus on casework as opposed to CODIS sample processing. All validation work is/was performed using laboratory funds. We recently received approval for a project period GAN for this grant to allow us time to obtain approval for a change of scope GAN to further improve throughput in CODIS sample processing and concomitantly increase serology and DNA casework throughput. As no funds have been used for casework purposes during this reporting period for the reasons listed above, no profiles have been added to CODIS and no hits from CODIS have been obtained.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012 (FINAL REPORT)

The average number of forensic DNA samples processed per month per analyst at the beginning of the award period was 48 and is at 40 at the end of the reporting period. This metric for the most recent reporting period represents the more consistent value for this

category over the past several reporting periods. This change reflects the normal variation due to case submission and circumstances.

The DNA case turn-around-time at the beginning of the award period was 115 days and is 145 days at the end of this reporting period. We will explain the increase in turn-around-time for this most recent reporting period as a result of significant health related issues that plagued 3 of the 6 people in our serology/DNA section this past winter. As the statistics are generated for cases that are "reported out" in January through June of this year, many of those cases first came into the lab in the fall of 2011 prior to our health issues. Also, we continue to be hampered by not receiving timely communication from our user agencies. We are exploring different ways of processing casework flow through the laboratory in an effort to address this concern.

The number of backlogged cases at the beginning of the award period was 59 and is 71 at the end of this reporting period. This change reflects the normal variation due to case submission and circumstances.

Our section underwent many changes during this funding period. A DNA technician whose salary was to be paid by this grant resigned early in the grant cycle. An IT technician position whose salary was to be paid by this grant was never hired due to re-organization of our IT Department; this was not finalized until late in the grant cycle. The section was displaced from our laboratory facilities for 3 months during an HVAC re-engineering project in the fall of 2010. We had one serologist on maternity leave for three months in 2011. We had significant health related matters for half of our section beginning in the fall of 2011 and finally our other serologist has just gone out on maternity leave. Though this information sounds like cries of woe, we are excited by what the future has in store for us.

We were able to extend the grant period and make significant budget modifications in a GAN that was approved this last spring. We purchased equipment (BSD punch and service contract) and supplies (FTA card-based convicted offender collection kits) to update our Convicted Offender Databasing Program. We were able to purchase replacement computers and a server for our Convicted Offender Databasing Program as well. We also purchased GMID-X genetic analyzer software in preparation for a purchase of an ABI 3500 genetic analyzer which was recently acquired using FY11 grant funds. All in all, we are in a good position to take advantage of recent purchases and expect them to have significant effects on our continued goals of increasing throughput and decreasing turn-around-times.

The State of Montana is very appreciative of the assistance NIJ has provided and continues to provide.

As no funds have been used for casework purposes during this reporting period for the reasons listed above, no profiles were been added to CODIS and no hits from CODIS have been obtained.

FY10 Recipient Name: Charlotte-Mecklenburg Police Department, North Carolina

Award Number: 2010-DN-BX-K165

Award Amount: \$349,200

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

Goal 1: To reduce its current backlog of DNA cases by funding an additional DNA analyst. An additional analyst would allow us to work more cases in the same period of time.

Goal 2: To decrease significantly the turnaround time of casework, by the addition of a screener to screen cases before going to DNA, and by addition of an evidence technician to deliver evidence to the laboratory.

Goal 3: To increase the number of forensic DNA samples processed by each analyst per month, this is also accomplished by addition of a screener. The premise behind this, is that if the DNA analyst does not have to screen their cases, they can spend more time working on DNA samples.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: This goal is still pending, since we have not started working cases on this grant.

Goal 2: This goal is still pending, since we have not started working cases on this grant.

Goal 3: This goal is still pending, since we have not started working cases on this grant.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: This goal is still pending, since we have not started working cases on this grant.

Goal 2: This goal is still pending, since we have not started working cases on this grant.

Goal 3: This goal is still pending, since we have not started working cases on this grant.

*Our evidence technician has been hired, and our CODIS server and software was purchased.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Both the DNA analyst and the screener currently funded under the FY2009 DNA grant will be funded under this grant mid-March 2012. The evidence technician handles evidence for the entire laboratory and has filled approximately 797 lab requests and transported 2698 items of evidence during this reporting period.

Goal 1: This goal is still pending, since we have not started working cases on this grant.

Goal 2: This goal is still pending, since we have not started working cases on this grant.

Goal 3: This goal is still pending, since we have not started working cases on this grant.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The DNA analyst and the screener started working under these funds in April 2012. Since then, 32 DNA cases have been analyzed with 3 profiles input into CODIS and 1 CODIS hit; and 45 cases have been screened/swabbed with 3 profiles input into CODIS with 3 CODIS hits. The evidence technician funded from January 2012 to April 2012 on this grant handles evidence for the entire laboratory. During this reporting period for the time that she was funded under this grant, has filled approximately 633 lab requests and transported 2101 items of evidence. The

new CODIS server and thermal mixers have been purchased, and the laptop is on order. DNA Investigator Kits have been purchased for extraction of samples.

- Goal 1: The DNA analyst has analyzed 32 DNA cases since April 1, 2012. Three profiles have been put into CODIS with 1 CODIS hit. The number of cases in the backlog has increased due to the success of our outsourcing of Property crimes with the funds awarded to the CMPD under the FY09 DNA backlog reduction grant. The number of samples has decreased because our Maxwell for casework samples had to be taken off-line. When the new validation is complete of the Automate, then this number is expected to increase.
- Goal 2: Turnaround time has not significantly decreased as of yet. Possible factors of that would be preparation for our ASCLD-ISO audit during this reporting period. Although the laboratory is accredited, this was our first time under the International criteria.
- Goal 3: The screener has screened 45 cases since April 1, 2012. Three profiles have been put into CODIS with 3 CODIS hits. Note: screened cases do not immediately go to DNA, only 10 of these 45 cases have gone to DNA at this time. In addition, she went to the AAFS meeting in February of this year which was funded by this grant.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

The DNA analyst and the screener were working under these funds during the entire reporting period. During this reporting period, 96 cases were screened and/or subjected to DNA analysis with 53 profiles input into CODIS and 3 CODIS hits. The evidence technician is now funded under the 2011 Backlog DNA Grant. The laptop and supplies have been purchased.

- Goal 1: The DNA analyst has analyzed 51 DNA cases during this reporting period. Fifty three profiles have been entered into CODIS with 2 CODIS hits. The number of cases in the backlog has increased due to the success of our outsourcing of Property crimes with the funds awarded to the CMPD under the FY09 DNA backlog reduction grant. The number of samples has decreased because our Maxwell for casework samples had to be taken off-line.
- Goal 2: Turnaround time has not significantly decreased as of yet. Possible factors of that would be the DNC that was Charlotte hosted during this reporting period, and the loss of a DNA analyst.
*The turnaround time for priority cases is 10 days and for expedited cases, 30 days (these are for court and violent crimes at 22.7% of the cases worked). Remaining cases are at 6 month turn around time.
- Goal 3: The screener has screened 45 cases during this reporting period. Note: screened cases do not immediately go to DNA, only 19 of these 45 cases have gone to DNA at this time. She is also currently undergoing body fluid identification training and is expected to start supervised cases for this early March of 2013.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

The screener worked under these funds during the entire reporting period. The DNA analyst took leave of absence due to her wedding and a death in her family. **During this reporting period, as a result of analysis by grant funded personnel or funded by supplies from this grant: 239 cases were screened and/or subjected to DNA analysis with 153 profiles input into CODIS and 27 CODIS hits.**

- Goal 1: The DNA analyst has completed 4 DNA cases during this reporting period. Nineteen profiles have been entered into CODIS with 2 CODIS hits. **In addition, using supplies purchased under this grant, there were 192 cases completed in the section by other analysts with 134 profiles entered into CODIS and 25 CODIS hits.**
- Goal 2: Turnaround time has not significantly decreased as of yet. A possible factor is from the loss of three DNA analysts.
*The turnaround time for priority cases is still 10 working days and for expedited cases, 30 calendar days (these are for court and violent crimes at 25% of the cases worked). Remaining cases are at 6 month turn around time.
- Goal 3: The screener has screened 43 cases during this reporting period. Note: screened cases do not immediately go to DNA, only 5 of these 43 cases have gone to DNA at this time. Her supervised casework for body fluid identification was delayed by personal reasons, but she finally started on June 4, 2013. Her first three supervised cases are currently in technical review, **but are will not be counted in metrics until completely through review.**

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

During this reporting period, as a result of analysis by grant funded personnel or funded by supplies from this grant: 126 cases were screened and/or subjected to DNA analysis with 89 profiles input into CODIS and 30 CODIS hits. Supplies and a color printer were purchased during this period. Some cases had multiple profiles entered into CODIS.

- Goal 1: The DNA analyst completed 20 DNA cases during this reporting period entering fifteen profiles into CODIS with 1 CODIS hit. In addition, using supplies purchased under this grant, there were 60 cases completed in the section by other analysts with 74 profiles entered into CODIS and 15 CODIS hits.
- Goal 2: Turnaround time for this reporting period is 120 days for regular cases.
*The turnaround time for priority cases is still 10 working days and for expedited cases, 30 calendar days (these are for court and violent crimes at 60% of the cases worked).
- Goal 3: The screener has screened 40 cases during this reporting period. Note: screened cases do not immediately go to DNA, only 5 of these 40 cases have gone to DNA at this time. She completed 6 supervised body fluid identification cases.

FINAL REPORT:

Progress report #6 was revised to add the cases worked using supplies from this grant. All revisions in metrics and narrative are in red.

This grant funded three positions at CMPD. One was an evidence technician whom transported evidence from Property Control to the laboratory. One was a Criminalist II, (DNA analyst) and the final one was a Criminalist I (screener). The screener swabbed touch item cases for DNA,

and then trained in body fluid identification. Under this grant, a total of 538 Biology cases were either swabbed for touch item/wear area, screened for body fluids or processed for DNA. 301 were entered into CODIS with 50 CODIS hits from these cases. The Criminalist II attended the North Western Association of Forensic Scientists in Missoula, MT meeting and the Criminalist I attended the American Academy of Forensic Scientist meeting in Atlanta, GA. Purchased from this grant, were a CODIS server with software to upgrade our system, a laptop to analyze data, two centrifuges, a thermal mixer, a heat block, and a color printer. Casework supplies were purchased.

- Goal 1: During the grants entirety, the DNA analyst completed 107 DNA cases, entered 90 profiles into CODIS with 7 CODIS hits. In addition, using supplies purchased under this grant, there were 252 cases completed in the section by other analysts with 208 profiles entered into CODIS and 40 CODIS hits. One of the cases processed by the DNA analyst involved two victims that were robbed and sexually assaulted by two unknown males. A profile was obtained from duct tape used on the victims, a CODIS match led to the arrest of one of the suspects.
 - Goal 2: Turnaround time for April 2013 to September 2013 is 120 days for regular cases. *The turnaround time for priority cases is still 10 working days and for expedited cases, 30 calendar days (these are for court and violent crimes at 60% of the cases worked). Remaining cases are at 6 month turn around time.
 - Goal 3: The screener has completed 173 swabbing cases, along with 6 supervised cases in body fluid identification. Three of these cases have gone to DNA with 3 CODIS hits. This grant funded three personnel: the evidence technician transported evidence from Property Control to the laboratory. The Biology section has grown to such an extent that transporting and retrieving evidence is a full time job. Also with the increase of priorities, this allows the technician to pull evidence for the lab at a moment's notice without interrupting the normal operations of Property Control. The Criminalist I not only swabbed cases for DNA, but also completed the training necessary to screen cases for body fluids. Currently the CMPD only has one full time analyst that does this. The addition of the DNA analyst allowed the section to process 107 more cases. These positions would not be possible were it not for the funds from this grant. The supplies funded under this grant allowed for the process of 252 cases.
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FY10 Recipient Name: North Carolina Department of Crime Control and Public Safety

Award Number: 2010-DN-BX-K198

Award Amount: \$1,646,246

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: To work an additional 1000 cases in-house with an eye toward working more unsolved cases and entering additional profiles into CODIS
As submissions increase, it becomes even more crucial to work additional cases to maintain acceptable turnaround times. The section plans to do this through the use of overtime funding and better equipment and automation as detailed in the next section. This increase also entails more money spent on supplies.

Goal 2: To continue the process of purchasing and validating new systems and equipment to better automate and streamline the analysis process.

The section currently utilizes three 3130xls between its casework analysts and database analysts. A fourth instrument is currently under validation; this should reduce bottlenecks when it is put online. The section plans to purchase 4 extraction robots to increase efficiency during the extraction phase. Currently, no robotics are used in casework and incorporating their use should increase productivity. The section has one 7500 quantitation instrument which recently completed its validation. The next step is to have Applied Biosystems perform a dual validation of Minifiler and quant Duo on this instrument. Once this validation is complete, two additional 7500s would be purchased. These models are better equipped for the newer amplification systems being released and allow the analyst to best determine the next course of analysis after the quantitation step. In addition, the section currently has four 7000s which will need to be replaced in the near future due to age. The section needs to purchase additional 9700s for two reasons: casework analysts and database analysts compete for their use, creating a bottleneck, and the older 9700s need to be replaced due to age. The laboratory will purchase this equipment from the FY2009 grant funding and proposes to purchase the same equipment again from the FY 2010 grant. In addition, a new server will be bought for CODIS to replace the old one.

Goal 3: To provide funding for mandated training for analysts and for maintenance contracts for the equipment and instrumentation used in the section.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During this reporting period, there was no activity with the funds from this grant as the NC SBI Crime Laboratory was still spending down the 2009 Forensic DNA Backlog Reduction Program Formula Grant.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this period, there was no activity with this grant. Despite numerous requests from the NCSBI/State Crime Laboratory, GCC has not released funds as of July 22, 2011.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The GCC finally released these funds to the NCSBI/State Crime Laboratory in August 2011.

The NCSBI/State Crime Laboratory has begun to use the funds.

Goal 1: To work an additional 1000 cases in-house with an eye toward working more unsolved cases and entering additional profiles into CODIS.

During this reporting period, 528 cases were worked during the reporting period; 162 DNA profiles have been entered into CODIS and 61 hits have been made. This was accomplished with overtime hours funded from this grant.

Goal 2: To continue the process of purchasing and validating new systems and equipment to better automate and streamline the analysis process.

No equipment has been purchased with this grant yet. The NCSBI/State Crime Laboratory is obtaining quotes and will start purchasing during the next reporting period.

Goal 3: To provide funding for mandated training for analysts and for maintenance contracts for the equipment and instrumentation used in the section.

No training funds have been expended from this grant; plans are being made for travel for the next reporting period. Maintenance contracts - appropriate maintenance contracts were obtained to cover some instrumentation

No corrective action plan anticipated

No changes needed in implementation plan at this time

No technical or administrative assistance is needed from the grantor at this time

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: To work an additional 1000 cases in-house with an eye toward working more unsolved cases and entering additional profiles into CODIS.

During this reporting period, 223 cases were worked during the reporting period; 121 DNA profiles have been entered into CODIS and 6 hits have been made. Overtime hours funded from this grant assisted the section in completing these cases.

Goal 2: To continue the process of purchasing and validating new systems and equipment to better automate and streamline the analysis process.

No equipment has been purchased with this grant yet. The NCSBI/State Crime Laboratory has obtained quotes and submitted required documentation to the Purchasing and Contract Division for NC; approval has to be obtained before ordering.

Goal 3: To provide funding for mandated training for analysts and for maintenance contracts for the equipment and instrumentation used in the section.

During this reporting period, employees attended the following training events: Five Forensic Scientists attended the American Academy of Forensic Sciences meeting; eight Forensic Scientists attended the 9th Annual Advanced DNA Technical Workshop. Maintenance contracts - appropriate maintenance contracts were obtained as needed to cover some instrumentation

No corrective action plan anticipated

No changes needed in implementation plan at this time

No technical or administrative assistance is needed from the grantor at this time

FINAL REPORT: (July 1, 2012 – December 31, 2012)

Goal 1: To work an additional 1000 cases in-house with an eye toward working more unsolved cases and entering additional profiles into CODIS.

During the life of the grant, a total of 984 cases were worked, just shy of the initial goal set at application. During the grant, 401 profiles were entered into CODIS and there were 73 CODIS hits attributable to analyses funded under the award. Overtime hours funded from this grant assisted the Section in completing these cases.

The number of cases worked, turnaround time and cases pending analysis were negatively impacted during the life of this grant. In 2010, the State Crime Laboratory began the process of preparing for ISO accreditation. All documents were re-written, reviewed, edited and finally placed into effect in mid-September 2012. This process required a great deal of manpower from the Section. In early 2011, the NC Legislature mandated that every eligible Forensic Scientist obtain individual certification. Preparation the certification exam demanded much of the scientist's work time. The Melendez-Diaz Supreme Court ruling has resulted in the Forensic Scientists being taken away from bench work to appear in court more frequently. Court hours doubled between 2009 and 2011. In addition, the Forensic Biology Section has experienced a significant increase in the number of submissions for analysis. The Section experienced a 16.6% increase in submissions between (NC) FY10/11 and FY11/12. Lastly, the Section suffered from

a significant loss of personnel. Currently, there are a total of ten vacant positions in the Section (of the 33 Forensic Scientist positions). Several of the filled positions were in a training status during the grant period. The reduced number of case-working positions required fewer supplies to be purchased.

Goal 2: To continue the process of purchasing and validating new systems and equipment to better automate and streamline the analysis process.

During the life of the grant, the State Crime Laboratory was able to purchase equipment to increase the efficiency in the Section. The Section purchased four extraction robots, two ABI 7500s, and two ABI 9700s. In addition, the CODIS server and software were upgraded. The Section also purchased a scanner.

Goal 3: To provide funding for mandated training for analysts and for maintenance contracts for the equipment and instrumentation used in the section.

Training - During the life of the grant, employees attended the following training events: American Academy of Forensic Sciences meeting; Annual Advanced DNA Technical Workshop; SAFS meeting and CODIS meeting.

Maintenance contracts - During the life of the grant, appropriate maintenance contracts were obtained as needed to include the following: Qiagen robots, ABI equipment, centrifuges, hoods, Speed Vac, freezers, pipettors and balances.

No corrective action plan anticipated

No changes needed in implementation plan at this time

No technical or administrative assistance is needed from the grantor at this time

FY10 Recipient Name: North Dakota Office of the Attorney General

Award Number: 2010-DN-BX-K162

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Decrease the current backlog of forensic casework in the DNA Unit of the Forensic Section of the Crime Lab Division

Goal 2: Enhance the basic infrastructure of DNA Analysis.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

No funding has been drawn down on this grant during this reporting period

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

No funding has been drawn down on this grant during this reporting period

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The laboratory has purchased DNA supplies and reference books with the funding available from this grant. Less than 1.0% of the grant funding (\$250.00) has been utilized during this period.

The laboratory has utilized all available funding in the 2009 DNA Backlog Reduction Program Grant during this reporting period and will begin using the funding on this grant during the next reporting period.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The laboratory has purchased DNA supplies and 4 DNA profiling kits. One analyst attended a Mixture Interpretation Workshop at the AAFS meeting. Three cases were processed using funding available from this grant.

A thermocycler was purchased and implemented in the laboratory to replace an aging thermocycler.

One CODIS hit can be directly attributed to forensic analyses completed using funding from this grant.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

The laboratory has purchased DNA supplies with funding from this grant.

One hundred and thirty-nine cases were processed using funding available from this grant.

The cases that count towards this number are any cases that used extraction kits and/or profiling kits purchased with the funding from this grant.

A total of twenty-four profiles were uploaded to CODIS and five CODIS hit can be directly attributed to forensic analyses completed using funding from this grant.

FINAL REPORT: January 1, 2013 – May 31, 2013

The laboratory has purchased DNA supplies and four profiling kits using funding from this grant. Also, the laboratory purchased ArmedXpert software. The software has been installed for the DNA analysts in the laboratory and on-site training has been completed. The laboratory is still validating the software for use in casework. It is expected the software will be implemented for use in casework in the next two months. It will be a valuable tool for separating mixtures when implemented in casework.

Upgrades were purchased for one 3130 and the 3500 Genetic Analyzers; both have been installed and quality checked for running laboratory casework. The upgrades allows the laboratory to be compliant with state guidelines regarding Windows 7 issues and the laboratory will be able to utilize new profiling kits in the future because of the ability to collect data from six dyes.

One hundred and thirty-four cases were processed using funding available from this grant. The cases that count towards this number are any cases that used extraction kits and/or profiling kits purchased with the funding from this grant. The average number of samples processed by DNA analysts per month was 30 samples.

A total of fifty-four profiles were uploaded to CODIS and ten CODIS hit can be directly attributed to forensic analyses completed using funding from this grant.

Summary

The overall objective of the 2010 Forensic DNA Backlog Reduction Program grant was to decrease the current backlog of forensic casework in the DNA Unit of the Forensic Section of the Crime Laboratory Division and to enhance the basic infrastructure of DNA analyses. These objectives have been met.

The current backlog of forensic casework has decreased.

- The number of cases in the workload has decreased from 289 to 109 total cases with 79 cases over 30 days. The metrics demonstrate that the number of cases over 30 days is slowly decreasing over time. This decrease can be attributed to the analysts becoming more proficient with the LIMS system that was implemented in 2011. During this grant period the laboratory reviewed the outstanding cases and determined some cases were lower priority cases because the statute of limitations expired, the suspect plead guilty,

the prosecution declined to prosecute, and/or the laboratory was waiting for permission to consume the evidence. These lower priority cases have been taken out of the workload.

- Supplies and 8 DNA profiling kits were purchased to process DNA casework. The total number of cases worked with funds attributed from this grant is 276 cases. The number estimated on the grant application was 77 cases. The number is derived from any case that used DNA IQ Extraction kits and/or profiling kits that were purchased using grant funding. A total of 81 profiles were uploaded to CODIS that resulted in a total of sixteen CODIS hits either at the state or national level.

The delivery of test results has decreased.

- The average number of days between the submission of a sample to the laboratory and the delivery of test results to the requesting agency has decreased from 199 days to 120 days. Over the course of the grant period the average was 113, while the lowest turn-around time was an average of 50 days. The submission of DNA cases during this time period has increased from 205 to 363 cases (77% increase!).

The infrastructure has been enhanced.

- Several equipment items were purchased: a thermocycler and upgrades for 3130 and 3500 Genetic Analyzers. The equipment has been validated and implemented for running DNA casework and/or offender work. To assist with separating mixtures the laboratory has purchased ArmedXpert for the DNA analysts.
- The grant has provided funding for one analyst to attend a Mixture Workshop at the AAFS meeting and another analyst to attend a Mixture workshop at the MAFS meeting. The laboratory was unable to send an individual to the Promega meeting but a portion of the funding utilized to for an analyst to attend a Mixture workshop at the MAFS meeting.

The DNA Unit has decreased the current backlog of forensic DNA casework and enhanced infrastructure using the available funding from this grant. These funds had a direct impact on the ability to process cases for DNA analysis. The funds enabled the laboratory to purchase consumables and profiling kits, equipment, software, and training. The success of the DNA Unit would not have been possible without these grant funds and having the flexibility to use the funds effectively when technology and goals change.

Reconciling the grant expenditures a few discrepancies were found:

- The laboratory was unable to send an analyst to the Promega meeting. A portion of the travel funding and registration fees were used to send an analyst to a Mixture Workshop at the MAFS meeting.
- A thermocycler was purchased in in 2012 and was omitted on a Budget GAN in 2013 so the amount in the Equipment category was accurate when the GAN was submitted.
- A Direct Amp Fusion kit was not purchased using funding from this grant as listed other funding sources were utilized. The laboratory did however validate the Direct Amp Fusion kit for offender databasing during the last six months.
- A service agreement for ArmedXpert was not included in the Budget GAN and it was omitted under the contract line item.

These discrepancies have caused the budget detail worksheet to be incorrect with the budget. The budget categories: travel, supplies, and other are underspent while the equipment and consultants/contracts are overspent. The total award amount remains the same. The final summary of the budget should be the following:

Budget Category	Approved	Final
A. Personnel	\$0.00	\$0.00
B. Fringe Benefits	\$0.00	\$0.00
C. Travel	\$2,831.00	\$1,904.00
D. Equipment	\$6,500.00	\$14,155.00
E. Supplies	\$81,517.20	\$70,389.00
F. Construction	\$0.00	\$0.00
G. Consultants/Contracts	\$8,127.00	\$11,627.00
H. Other	\$51,025.00	\$51,925.00
Total Direct Costs	\$150,000.20	\$150,000.00
I. Indirect Costs	\$0.00	\$0.00
TOTAL PROJECT COSTS	\$150,000.20	\$150,000.00
Federal Request	\$150,000.20	\$150,000.00
Non-Federal Amount	\$0.00	\$0.00

FY10 Recipient Name: Nebraska State Patrol

Award Number: 2010-DN-BX-K199

Award Amount: \$250,756

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective 1: Improve the Crime Laboratory's DNA analysis capacity.

Performance Measure: Reduce the average number of days between the receipt of a forensic DNA sample and the delivery of results to the appropriate agency from 176 to 120 days.

Performance Measure: Each analyst will increase the number of samples analyzed each month from 25 to 30.

Objective 2: Reduce the number of backlogged DNA cases

Performance Measure: Reduce number of backlogged DNA cases from 128 to 100 cases.

Performance Measure: The number of CODIS hits attributable to the forensic casework DNA analyses funded under this announcement

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Quotes have been obtained for the multicapillary instrument and the purchasing process is being initiated. Funding has not been utilized for overtime, analyst salaries or training because we are still utilizing funding from the 2009 grant. We have requested quotes for the computer for the CODIS analyst. The CODIS Module and Prelog have been purchased with funding from the 2008 DNA Backlog Reduction grant. We still anticipate that there will be some expenses from the Crime Commission and NCJIS, but the project is ongoing. Once there is a detailed account of the savings, a decision will be made about what to do with the funding savings for that project.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Funding has not been utilized for overtime, analyst salaries or training because we are still utilizing funding from the 2009 grant. Due to a problem with the software developer for the LIMS system used by our lab, (BEAST by Porter Lee), funds from the 2009 DNA Backlog grant

were not able to be spent. A budget adjustment was created to transfer many of the items from this grant to the 2009 grant in order to use the funds by the end of the grant period. A budget adjustment will be requested on this grant to re-allocate the funds to the LIMS system.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Funding for analyst salaries, overtime, and training began being expended on October 1, 2011 as the 2009 DNA Backlog Reduction Program grant was finalized. The analyst who is funded solely by this award is scheduled to complete the training program and be declared competent to perform independent casework in February 2012. The analyst has been performing supervised casework under a qualified analyst during the time she has been funded by this award. The performance metrics listed above for this reporting period are a result of overtime funds.

Funding has been used to allow the Backup State CODIS Administrator to attend the CODIS State Administrators meeting in Jacksonville, FL in November, 2011. A second analyst has been approved to attend the 2012 American Academy of Forensic Sciences annual meeting to be held in February 2012 in Atlanta, GA using funds from this award.

In accordance with the Grant Adjustment Notice approved in September of 2011, seven copies of the GeneMapper ID-X client software have been purchased. The performance check for the implementation of the software is currently underway. In addition, a quote for the purchase of the 7500 RT-PCR instrument and has been received by Applied Biosystems and the purchase order is in the approval process. As a step towards the implementation of the CODIS Pre-log portion of the Laboratory Information System (LIMS), the software vendor provided five days of on-site support to prepare for the pre-log implementation as a result of funding from this award. The CODIS Pre-log portion of the LIMS went live on December 30, 2011 and user registration has begun in earnest.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

We continue to fund one Forensic Scientist using funding from this award. This analyst has been actively screening cases for DNA analysis since completing her training in February 2012. This has helped decrease the overall backlog of cases pending analysis in the Biology Unit.

During this reporting period, analysts have worked 86 hours of overtime completing 61 cases, uploading 18 profiles to CODIS, which resulted in five (5) CODIS hit using funds from this award.

Training for four analysts has been funded during this reporting period from this award, including attendance at the American Academy of Forensic Science, the Mid-America DNA Conference, and the BODE West DNA Conference. Additionally, funding from this award will be used to fund two analysts to attend the Midwestern Association of Forensic Scientist Meeting this fall.

Funds from this award were used to purchase a 7500 Real Time PCR instrument which was received and installed at the laboratory in June 2012. Validation of this instrument is pending, but should be completed within the next reporting period. In accordance with the June 2012 GAN, the purchase of a water purification system is in process and the order should be completed by the end of July.

GeneMapper ID-X was purchased and validated for use by the DNA Unit. Each analyst has a copy of GeneMapper ID-X and now uses the software for DNA data analysis.

The current six month extension for this award expires on September 30, 2012. It is expected that a second six month extension will be requested to allow for the completion of the spending of the salary and fringe benefits for the forensic scientist.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

We continue to employ one Forensic Scientist using funding from this award for the screening of biology cases. The productivity of this analyst was limited due to 90 days of maternity leave. Additionally, this analyst has begun the training program for DNA testing and will soon become a completely trained DNA analyst. Her absence did have a noticeable effect on the unit's turnaround time and case backlog, further amplifying the benefit of the grant funded positions at our lab.

During this reporting period, analysts have worked 104.5 hours of overtime completing 66 cases, uploading 12 profiles to CODIS, which resulted in one (1) CODIS hit using funds from this award.

Funding from this award was also used to send four analysts to training during this reporting period. This training included sending one scientist to the Promega meeting, two scientists to the Midwestern Association of Forensic Scientists meeting, and the DNA Technical Leader to the CODIS conference.

An additional EZ1 Advanced XL BioRobot used for DNA extractions was purchased, installed, and validated during this reporting period, increasing the laboratory's extraction capacity. A new laptop computer was also purchased for the DNA Technical Leader which allows him to access all of the agency systems, including data analysis software and the LIMS system while working off-site, performing site visits, trainings, etc. A new water system, which better fits the needs of the laboratory, was purchased and is in place.

FINAL REPORT:

The funding from this award that was used to fund one scientist to screen biology cases for potential DNA testing over a fourteen month period. Due to the nature of forensic biology testing, the effect of this person was not immediately felt due to the extensive training period. Once the scientist become competency tested and was able to perform independent casework, she was able to focus on large, time consuming cases, freeing up qualified DNA analyst time for completing more cases. The case turnaround time increased during the beginning of this award to due to the training time required for the analyst. After the analyst became qualified for independent casework, the turnaround time has begun a downward trend. The same trends were observed with the number of backlogged cases. However, what these numbers do not indicate is the ~13% increase in case submissions over the last year. This supports the fact that funds from this award have helped the overall efficiency of our laboratory. This analyst worked a total of 61 cases over the course of this award. Because it is not possible within the laboratories LIMS to distinguish between cases screened by this analyst and the cases on which overtime funds were used for DNA testing, these 61 cases are not counted in the metrics associated with grant-funded personnel to avoid double counting cases.

Funds from this award were used to fund 190.5 hours of overtime spent working 139 cases. A total of 44 profiles were uploaded to CODIS of which seven (7) resulted in CODIS hits. At an hourly rate of \$41.10 (including benefits) for overtime pay, a total of \$7830 was spent on overtime. This resulted in an average cost of \$57 per case, well below the \$1,000 per case maximum.

Each scientist must attend relevant training annually as required by federal standards. This training is expensive as it requires out of state travel. With only 10 full time forensic DNA analysts in Nebraska, it is not feasible to have local training. Funds from this award were used to support ten separate training opportunities, including attendance at six national meetings and three regional meetings over the course of this award, all of which meet the requirements of the national standards.

This award allowed the laboratory to purchase \$94,756 worth of laboratory equipment to include a PCR instrument, an extraction robot, a water purification system, and computer equipment. The addition of this equipment has reduced the bottleneck in the laboratory when multiple scientists are working at the same stage of the process simultaneously. Without this award, the purchase of this equipment would not have been possible, causing inefficiencies as well as preventing the laboratory from staying up to date with modern equipment.

Funds were also used to pay for on-site support from our Laboratory Information Management System (LIMS) manufacturer. This support was used to prepare our system for the implementation of the DNA module which will allow for an improved LIMS for tracking samples, reagents, and other supplies throughout the DNA testing process.

A license for the latest version of data analysis software was able to be purchased for each analyst. The newest software will allow the laboratory to implement an expert system for the analysis of database samples. The expert system will reduce the amount of time required by the scientist in getting database samples uploaded to CODIS.

In light of ever increasing caseloads during difficult economic times, the importance of this award to the Nebraska State Patrol Crime Laboratory cannot be quantified.

FY10 Recipient Name: New Hampshire Department of Safety

Award Number: 2010-DN-BX-K060

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Process 110 forensic biology cases utilizing funds for consumables and overtime

Goal 2 (Updated for Progress Report 3): Purchase hardware and software required for CODIS upgrade

Goal 3: Purchase and install additional proximity locks for serology/DNA storage and lab areas

Goal 4: Provide continuing education and proficiency tests for analysts to satisfy FBI QA Standards

Goal 5: Purchase CODIS collection kits

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: Forty-seven forensic biology cases have been worked during overtime hours in the first quarter of this grant period. Although this is huge progress toward the goal number of cases, the turnaround time has increased significantly. This can be attributed to the laboratory being short one serology/DNA analyst due to maternity leave. This absence is expected to continue through most of the second quarter of the grant period. The number of samples worked per analyst as remained constant, further supporting the increase in turnaround being due to the absence of this analyst.

Fourteen profiles were entered into CODIS. Four forensic hits were obtained, linking together DNA profiles found on envelope seals, used to send harassing letters.

Goal 2: No progress has been made toward this goal.

Goal 3: The security company has been contacted and has made site visits to put together a quote. The quote has been received and has been passed along to the laboratory director to work with purchasing on either placing the order or putting it out to bid if necessary.

Goal 4: No progress has been made toward this goal.

Goal 5: No progress has been made toward this goal, pending a GAN to release the consumables funds.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: The laboratory has exceeded its goal of processing 110 cases utilizing grant funds, as we have analyzed 243 cases utilizing grant-funded overtime and/or supplies. The analyst on maternity leave has returned to work and the turnaround time has decreased by a few days. 118 profiles were entered into CODIS. 37 hits were obtained. 21 of the 37 hits all related to six burglary/breaking and entering cases which were linked together, and subsequently hit on an offender from California.

Goal 2: No progress has been made toward this goal. Now that the state has begun its new fiscal year, we will be placing orders for these items.

Goal 3: The laboratory has learned that this project must be put out to bid. The posting of the project for bids had to be delayed until the state's new fiscal year, which began July 1. It is anticipated that this project will be put out for bid during this quarter.

Goal 4: Proficiency tests have been purchased for all DNA analysts. Registration fees for two DNA analysts to attend the Green Mountain DNA Conference in July have been paid.

Goal 5: CODIS collection kits were ordered and have been received by the laboratory. This goal is complete.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: During this period, the laboratory has spent all of the budgeted overtime and supply funding, and so casework examinations being performed under this grant source are complete. In the period since July 1, 143 additional cases have been worked utilizing grant funds, for a total of 386 over the course of the grant. 71 profiles were entered into CODIS, and several hits have been obtained. Most of the hits linked together unsolved burglary cases, providing investigative leads.

Goal 2: The original goal of purchasing LIMS licenses and an additional computer for LIMS use was changed via a GAN. The laboratory identified a need to purchase new upgraded hardware and software in preparation for the CODIS upgrade, scheduled for February 2012. These items have been purchased, and the laboratory is in compliance with the hardware and software required for the upcoming CODIS upgrade.

Goal 3: The purchase and installation of the proximity locks is still delayed. While funding under this grant is being used for the forensic biology lab and storage areas, other funding sources are being used for locks in other areas of the lab. The other funding is subject to approval by personnel outside of the laboratory, which is expected to

take place in February 2012, at which time the project should be able to go out to bid. As such, the DNA portion of the project is delayed as well. The current end date for this grant is March 31, 2012, and we anticipate that we will need to seek an extension for the completion of this goal.

Goal 4: Expenses for two analysts to attend the Green Mountain DNA Conference and another analyst to attend the National CODIS Conference have been paid using funding from this grant. This enabled the lab to satisfy FBI QA Standards regarding continuing education for three out of the lab's five DNA analysts.

Goal 5: This goal was complete prior to this reporting period.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Complete

Goal 2: Complete

Goal 3: The contract for the purchase and installation of the proximity locks has been awarded through a competitive bid process, and the installation will be taking place in the next couple of months. Due to the delay, an extension of the project period was requested through September 2012 and a GAN has been issued.

Goal 4: As some funds remained in this category following the proposed training, an additional analyst was sent to the 11th Annual Advanced DNA Technical Workshop, paid for in part with the remaining funds in the training category.

Goal 5: Complete

Please note that the reported metric for the number of cases backlogged has been calculated differently than in previous progress reports. Prior to this reporting period, any case which was submitted to the lab and not yet complete was considered backlogged, regardless of how long it had been in the lab. Beginning with this project period, the lab has adopted NIJ's definition of a backlogged case as one which has not been reported within 30 days of submission. Therefore, what appears to be a large decrease in the number of backlogged cases is primarily due to the changed definition and is not solely reflective of progress made in the lab.

FINAL REPORT:

The final metrics are as of September 31, 2012, when the grant period ended. The number of backlogged DNA cases increased fairly significantly due to a technology change that took place in the DNA laboratory. Case work in the DNA laboratory was stopped in early August for a period of several weeks while the laboratory converted from the use of a 310 genetic analyzer to a 3500 genetic analyzer, and began using modified mixture interpretation guidelines. The DNA lab went off-line for this period as staff were trained in the use of the new analyzer and DNA interpretation. Because of this, the number of backlogged DNA cases grew at the very end of this grant period. Serology screening continued during this time.

Goal 1: The laboratory has processed more cases than estimated utilizing consumables and/or overtime funds from this grant. Slightly over 200 samples were entered into CODIS, resulting in 48 CODIS hits. Four burglary cases and one prowling case in NH were linked to each other through DNA. The police department came up with a suspect who matched the DNA found in these cases, and later information revealed that this suspect was linked to at least 15 burglaries. Another case assisted by grant funds was a cold double homicide from 1988. Hair evidence from the case was analyzed and linked to a suspect who was being released from prison in Canada.

Authorities were able to detain him upon his release within hours of him getting on a bus to an Indian Reservation where he would not be able to be apprehended. He has been extradited back to the US and will be facing charges in the case.

Goal 2: The equipment for the CODIS upgrade was purchased and the upgrade took place on schedule.

Goal 3: The proximity locks have been installed and provide an extra layer of security for DNA evidence within the laboratory. Interior doors in the lab now have proximity locks rather than keyed entries.

Goal 4: Three analysts were able to attend training funded by grant funds, and a fourth had partial funding through this grant. The lab was able to supply the continuing education requirements of the FBI's QA Standards utilizing grant funds.

Additionally, proficiency tests were purchased for all analysts, allowing them to remain in compliance with requirements also set forth in the QA Standards.

Goal 5: CODIS collection kits were purchased and are currently being supplied to agencies collecting DNA samples from offenders.

FY10 Recipient Name: New Jersey Department of Law and Public Safety

Award Number: 2010-DN-BX-K086

Award Amount: \$1,312,628

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1- To complete renovations to the existing garage area to accommodate a CODIS DNA Laboratory.

Goal 2- ~~To provide an overtime program to increase throughput for screening and analysis of all backlogged DNA evidence and uploading resulting data into CODIS.~~ **Goal has been rescinded.**

Goal 3 – To upgrade the laboratory's instrumentation by the purchase of the latest model of Genetic analyzers.

Goal 4- ~~To provide for DNA specific training opportunities~~ **Goal has been rescinded.**

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Asterisk (*) for question- At the beginning of the award period (October 1,2010), Average number of samples analyzed per analyst per month. The number reported was achieved through an overtime program instituted by the laboratory from April 12, 2010 through September 10, 2010.

Goal 1- a GAN was submitted requesting the approval to re-allocate funds (\$109,331.33) from the equipment category to the Consultants/Contract category for a total of \$700,000.00 for that category. The NJSP Office of Forensic Sciences (OFS) submitted a project description to the Attorney General's office in August 2010. At the present time, the project is in the hands of a scope writer who is preparing documents necessary to initialize bidding by architects and engineers. The OFS does not have control of this process.

Goal 2- No action has occurred.

Goal 3 –a GAN was submitted requesting the approval to shift a total of \$109,331.33 from the equipment category to the Consultants/Contract category. The drawdown of funds (\$40,223.00) in the equipment category in conjunction with '07 Grant funding for purchase of two AB 3500 Genetic Analyzers will be made . The order for the two AB 3500 Genetic Analyzers was placed on 12-22-10 and the instruments were received at the laboratory on 12-29-10. The validation of the instruments will begin in January 2011.

Goal 4- No action has occurred

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1- Approved GAN 001 on 6-10-2011 requesting to re-allocate funds (\$1,227,189.20) from all categories to the Consultants/Contract category for a total of \$1,280,628 for that category to solely allocate funds to the renovation project. The NJSP Office of Forensic Sciences (OFS) has received the scope of work and is being finalized. At the present time, the project is in the hands of the Attorney General Office to initiate bids for architects. The OFS does not have control of this process.

Goal 2- **Goal has been rescinded.**

Goal 3 –The drawdown of funds (\$32,000 in the equipment category in conjunction with '07 Grant funding for purchase of two AB 3500 Genetic Analyzers will be made. The order for the two AB 3500 Genetic Analyzers was placed on 12-22-10 and the instruments were received at the laboratory on 12-29-10. The validation of these instruments have been completed and we are in the process of training staff on the instrument and the new amplification kit. This Goal has been rescinded since the \$32,000 drawdown of funds.

Goal 4- **Goal has been rescinded.**

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1- Approved GAN 001 on 6-10-2011 requesting to re-allocate funds (\$1,227,189.20) from all categories to the Consultants/Contract category for a total of \$1,280,628 for that category to solely allocate funds to the renovation project. Through a state bidding process, the NJ State Dept of Treasury in-conjunction with the NJSP Office of Forensic Sciences (OFS) has awarded the contract to the architect firm, Costanza, Spector and Clauser of Moorestown, New Jersey. Currently, we are working with the architect firm and have developed the project schedule, completed the pre-design and the schematic design phases of the CODIS Laboratory renovation. We are currently in the final design phase of the process and will be submitting the design for the permit aquisition phase through the NJ State Dept of Treasury. The OFS does not have control of this process.

Goal 2- **Goal has been rescinded.**

Goal 3 – Goal has been rescinded since the \$32,000 drawdown of funds.

Goal 4- **Goal has been rescinded.**

Asterisks (*)

At the end of this reporting period, what was the average number of samples analyzed per analyst per month?

The number reported (59) decreased from the previous progress reports. This decrease is due to an increase of burglaries cases in our caseload and the number of samples submitted in burglary cases.

At the end of this reporting period, what was the number of backlogged forensic DNA cases?

The number (617) increased from the previous progress reports. This increase results from the guidance provided by the DNA Grantee Newsletter 20 which stated to include forensic biology/DNA cases for this category.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1- Approved GAN 001 on 6-10-2011 requesting to re-allocate funds (\$1,227,189.20) from all categories to the Consultants/Contract category for a total of \$1,280,628 for that category to solely allocate funds to the renovation project. Through a state bidding process, the NJ State Dept of Treasury in-conjunction with the NJSP Office of Forensic Sciences (OFS) and the awarded architect firm, Costanza,Spector and Clauser, has awarded the building contract to the Ernest BOCK and Sons Inc. construction firm, of Philadelphia, Pennsylvania. Currently, the CODIS Laboratory renovation stage started on July 13, 2012. Initial payments on this project will be drawn from the NIJ Grant 2009-DN-BX-K161. The OFS does not have control of this process.

Goal 2- **Goal has been rescinded.**

Goal 3 – Goal has been rescinded since the \$32,000 drawdown of funds.

Goal 4- **Goal has been rescinded.**

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Asterisk (*) for questions- At the end of this reporting period, what was the average number of samples analyzed per analyst per month, and At the end of this reporting period, what was the number of backlogged forensic DNA cases. The numbers reported were achieved through an overtime program instituted by the laboratory from July 2012 through to the current date.

Goal 1- Approved GAN 001 on 6-10-2011 requesting to re-allocate funds (\$1,227,189.20) from all categories to the Consultants/Contract category for a total of \$1,280,628 for that category to solely allocate funds to the renovation project. Through a state bidding process, the NJ State Dept of Treasury in-conjunction with the NJSP Office of Forensic Sciences (OFS) and the awarded architect firm, Costanza,Spector and Clauser, has awarded the building contract to the Ernest BOCK and Sons Inc. construction firm, of Philadelphia, Pennsylvania. The CODIS Laboratory renovation stage began on July 13, 2012. Currently the project is almost completed with the final stages of the renovation being scheduled for the end of January 2013. Remaining payments on this project will be drawn from the NIJ Grant 2010-DN-BX-K086 after NIJ Grant 2009-DN-BX-K161 funds have been exhausted. The OFS does not have control over the drawdown of Grant funds.

Goal 2- **Goal has been rescinded.**

Goal 3 – Goal has been rescinded since the \$32,000 drawdown of funds.

Goal 4- **Goal has been rescinded.**

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1- Approved GAN 001 on 6-10-2011 requesting to re-allocate funds (\$1,227,189.20) from all categories to the Consultants/Contract category for a total of \$1,280,628 for that category to solely allocate funds to the renovation project. Through a state bidding process, the NJ State Dept of Treasury in-conjunction with the NJSP Office of Forensic Sciences (OFS) and the awarded architect firm, Costanza, Spector and Clauser, has awarded the building contract to the Ernest BOCK and Sons Inc. construction firm, of Philadelphia, Pennsylvania. The CODIS Laboratory renovation stage began on July 13, 2012. The renovation project for the CODIS Laboratory space is completed but we are still waiting for permanent CO issued by the STATE to occupy the area. Remaining payments on this project will be drawn from the NIJ Grant 2010-DN-BX-K086. The OFS does not have control over the drawdown of Grant funds. We anticipate having excess funds that we will request a GAN and Budget revision to exhaust all funds from this Grant.

Goal 2- **Goal has been rescinded.**

Goal 3 – Goal has been rescinded since the \$32,000 drawdown of funds.

Goal 4- **Goal has been rescinded.**

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013 Final

Goal 1- Approved GAN 001 on 6-10-2011 request to re-allocate funds (\$1,227,189.20) from all categories to the Consultants/Contract category for a total of \$1,280,628 solely for the renovation project. Through a state bidding process, the NJ State Dept. of Treasury in-conjunction with the NJSP Office of Forensic Sciences (OFS) awarded design of the project to the architect firm, Costanza, Spector and Clauser, and awarded the building contract to the Ernest BOCK and Sons Inc. The CODIS Laboratory renovation project began on July 13, 2012. The renovation project for the CODIS Laboratory space is completed and is currently operational. Funds from Category D for contract services were used to de-install and re-install three (3) existing 3500xl Genetic analyzer instruments into the newly renovated CODIS Laboratory. The OFS does not have control over the drawdown of Grant funds. We anticipate having excess funds for which we requested a GAN and Budget revision to exhaust all funds from this Grant.

Goal 2- **Goal has been rescinded.**

Goal 3 – Approved GAN 017 to re-allocate funds (\$223,980.00) from category G to category D to purchase one 3500 Genetic HID, five (5) Thermal cyclers 9700, seven (7) Kohler Illumination stages for the DM 750 microscopes and one (1) Crime Lite ML2. All have been purchased and have been received by the Laboratories. The purchase of a Cisco 6513e Switch Chassis has been completed. This purchased replaces the antiquated device supporting the connectivity to the DNA Laboratory

and the Central Laboratory, and all instruments contained therein. One GeneMapper software license was purchased for use on one of the newly purchased 3500 Genetic HID for the DNA Laboratory .

Goal 4- **Goal has been rescinded.**

FINAL REPORT:

The funds from this grant allowed for the renovation of an existing garage space to be converted into a fully contained state-of-the-art CODIS Laboratory with dedicated areas for extraction, amplification, and instrumentation to meet our specific needs for a more efficient processing of samples for upload to CODIS. The new laboratory was designed to accommodate the increased workload when our STATE legislated a Bill requiring CODIS specimens be taken from arrestees for violent offenses starting in February 2013. Funds were also used to move and validate several pieces of existing equipment required to conduct DNA analysis to the newly renovated CODIS Laboratory space.

Previous NIJ funding has allowed our laboratory to keep the impact of increased submissions under control by maximizing the capacity through instrument/ equipment purchases and updates. In order to maintain a state-of-the-art facility, replacement of existing equipment and purchase of new/ updated equipment to support new procedures is critical. Funding from this award allowed the DNA Laboratory to upgrade several pieces of equipment, specifically five (5) Thermal cyclers, (1) 3500xl Genetic Analyzer and partial payment for a second Genetic Analyzer to replace older units, and the purchase of one GeneMapper IDX software license to be used on the purchased 3500 Genetic analyzer HID. Additional funds from this award were used to purchase equipment to upgrade our Forensic Biology section's existing microscopes with upgraded stages and an alternate light source for quick detection of biological fluids on crime scene evidence.

This award also allowed our Central and DNA Laboratories, which are co-located and share a network system currently, to replace an antiquated switch chassis with the purchase of a Cisco 6513e Switch Chassis. The purchase of the Cisco 6513e Switch Chassis replaced the current legacy item which is no longer supported by the manufacturer with warranty or service contract. The switch chassis is the main device that supports connectivity to the DNA Laboratory and the Central Laboratory, and all the instruments contained therein. Central Laboratory conducts examinations on cases involving biological stains and prepares the case specimens for DNA analysis. The replacement device adds functionality and support for the newest technology available. The purchase of the latest piece of computer equipment supports the network speed up to 10Gbps, Power over Ethernet Plus (POE+), redundant power supplies, and MAC level security. All of which are designed to create a secure, robust network system.

NIJ funding continues to play an integral role in the success of the NJSP OFS DNA Laboratory and the crime fighting capabilities within the New Jersey Law Enforcement community. Without funding from NIJ the NJSP OFS DNA laboratory would not be able to stay up to date with current trends and technology changes and this would impede criminal investigations statewide. Our success can be directly linked to the generous funding supplied by NIJ since the inception of our DNA program. The law enforcement community in New Jersey benefits greatly

from our state of the art facility and our entire DNA program which would not be possible without the continued support from NIJ. To date NJSP OFS has over 8000 CODIS hits, putting New Jersey in the top ten of all states within the CODIS architecture. These are crimes that may have gone unsolved without DNA technology. The NJSP OFS is extremely grateful for the continued support from NIJ and look forward to future resources to keep our DNA program successful.

FY10 Recipient Name: City of Albuquerque, New Mexico

Award Number: 2010-DN-BX-K107

Award Amount: \$182,756

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: The main objective of this lab was to use this grant to outsource DNA samples to an outsourcing vendor

Goal 2: ~~Hire a full time serologist to allow for greater manpower available to process and analyze casework.~~ (moved this funding to outsourcing cases)

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: No progress on this goal during this reporting period.

Goal 2: Presently this lab no longer has the capacity to train a new incoming scientist. Rather than hire a new scientist, we will request to change the scope/budget modification of the grant to supplement the casework outsourcing as the main objective.

Please note at this time the lab is not processing property crimes as we lack the capacity to do so. Fifteen hundred and seven property crime cases have been included in the backlog data provided and these backlogged property crime cases date from 10/29/2002 - 3/6/2010.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: Special conditions that did not allow the Albuquerque Crime Lab to utilize funds for outsourcing cases were lifted in May 2011. Because of this, the lab has only completed 10 cases as of the present date.

Please note at this time the lab is not processing property crimes as we lack the capacity to do so. Fifteen hundred and seven property crime cases have been included in the backlog data provided and these backlogged property crime cases date from 10/29/2002 - 3/6/2010.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal: The main objective of this lab was to use this grant to outsource DNA samples to an outsourcing vendor and to hire a full time serologist to allow for greater manpower available to process and analyze casework. The main goal is to now focus only on outsourcing backlogged cases to an outsourcing vendor

Progress: This lab has not only accumulated a backlog of property crime cases, which we consider normal, but this lab as also accumulated a backlog of violent crime cases. We consider this larger accumulation of violent crime backlog due to the loss of several personnel due to retirement, etc. As a result, our violent crime backlog has been the focus of our outsourcing attention. Case dependent, violent crimes are more difficult and expensive to work than property crimes. This lab expects less

violent crimes completed per dollar than property crimes. Thus, this lab reports that fifty-two cases have been worked to completion yielding a total of 10 CODIS hits during this reporting period.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal: The main objective of this lab was to use this grant to outsource DNA samples to an outsourcing vendor and to hire a full time serologist to allow for greater manpower available to process and analyze casework. The main goal is to now focus only on outsourcing backlogged cases to an outsourcing vendor.

Progress: The last reporting period this lab reported that Fifty-two cases have been worked to completion yielding a total of 10 CODIS hits. This lab reported that the concentration of our outsourcing attention was focused on violent crime. The lab also reported that violent crimes are more difficult and expensive to work than property crimes. As a result, we have spent all of our available funding on the 60 violent crime cases.

FINAL REPORT:

Initially this grant was to be used for Forensic Scientific further education as mandated by the FBI for Forensic Scientists, hiring a new scientist, and outsourcing casework. However, further education was not needed with respect to this grant funding and this lab was not allowed to hire for City reasons. Therefore, funding was utilized for outsourcing cases only. The scope of the grant was to hire a scientist and that the new scientist would “cut” cases for the outsource vendor as well as eventually work cases. The outsource vendor was to be an auxiliary case working entity for the lab, thus, this lab would send cases we could not get to in a timely manner, such as property crime cases. Since we were not allowed to hire, this lab decided to send violent crime cases because our backlog of higher priority crimes had reached an abnormally high level, at 250. And without help (new scientist), we needed the outsourcing vendor to now become more than an auxiliary agent. Our outsourcing vendor provides services like, screening samples, cutting samples, working DNA to completion and writing the final reports. These services add to expense. Furthermore, changing from 1 – 2 sample property crimes to 1 – 50 sample violent crimes also adds to expense at an average of \$300 per sample. Thus, we knew there would be added expense and a lower number of cases completed; however, since they were high priority cases that would not be worked, we decided take full advantage of our outsourcing vendor and utilize every service available for these cases.

As a result total of 60 cases were successfully outsourced. The cases resulted in 10 CODIS hits. Previously, the casework metrics were not reflected correctly. This report now has the correct metric totals for each reporting period. Although these numbers seem small and the expense high, please note that by working on violent crimes, the City of Albuquerque managed to concentrate on removing violent suspects from the streets and reduce the high priority case backlog from 250 to 190. This lab considers this a great help rather than a monumental success.

FY10 Recipient Name: State of New Mexico

Award Number: 2010-DN-BX-K063

Award Amount: \$410,730

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- 1) Overtime for existing staff and funding for a technician position
- 2) Contractual services to complete in-house validation of new instrumentation and DNA kits
- 3) Instrumentation and equipment for data basing laboratory and laboratory supplies for analysis.
- 4) Augmentation of continuing education and training of DNA analysts, travel expenses
- 5) Increase timeliness of analysis, from submission to completion 42 days for 75% of cases

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- 1) Due to a hiring freeze the technician position remains unfilled. During this period analysts worked overtime on 13 cases, 5 profiles were entered into CODIS and 2 hits were attributed to the project.
- 2) A competitive bid process was conducted and validation should begin during the next quarter.
- 3) The database lab was established prior to the award; therefore, the grant will be modified to change the scope of this goal and re-program funding.
- 4) No travel was conducted during this reporting period.
- 5) Increase of timeliness this quarter of 10.36%

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- 1) During this reporting period analysts have worked overtime on 265 cases, 113 cases were entered into CODIS and 33 hits were attributed to the project. The DNA Technician was hired during the month of April 2011.
- 2) The purchase of the ABI 3500 has been made and validation for the new equipment should occur during the next reporting period. Training was conducted in-house for the FORENSIC PATERNITY INDEX STATISTICS by BODE Technology Inc.
- 3) A GAN was approved to reprogram funding in order to purchase ABI 3500. The purchase has been made. Although the purchase for the ABI 3500 was made during this reporting period, it is noteworthy to mention that the purchasing process took approximately 3 months from the time a purchase requisition for this item was generated to the time of delivery. Internal processes are being reviewed by the current administration to insure diligent expedition of equipment purchases for the future. The NMDPS is proceeding with other purchases of lab equipment and supplies.
- 4) 2 analysts attended AAFS and 4 analysts attended the BODE Technology Conference.
- 5) The increase for timeliness continues to have a slow but positive improvement. At the end of this reporting period, 49.25% of cases submitted to the NMDPS Forensic Laboratory are completed and results sent back to the requesting agency within 42 days.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- 1) During the reporting period 147 cases were analyzed using overtime and supplies. 62 profiles were entered into CODIS resulting in 21 hits. Grant funds were also utilized to

pay for one full time forensic lab technician who completed several projects during the reporting period including validation of a new forensic serology test.

- 2) Grant funds were also utilized to contract for validation of our newly purchased genetic analyzer with a new amplification kit by an outside vendor in an effort to advance technology in our lab while freeing up lab personnel to work on casework.
- 3) Equipment purchased include a fume hood for bone processing, bone pulverization equipment, an uninterrupted power source, 2 microscopes, a DNA purification instrument, a PCR set-up instrument, and Adobe Acrobat 10 software.
- 4) One DNA analyst traveled to Maryland in October utilizing these grant funds to attend the Promega International Symposium on Human Identification to obtain continuing education credit.
- 5) The increase for timeliness continues to improve at a slow rate. The forensic lab technician has impacted timeliness positively. A US Supreme Court decision in "*Bullcoming v. New Mexico*" requires laboratory analysts to testify, instead of stipulating to the report, on analysis performed for each case resulting in trial. Court appearances have not significantly increased at this time; however, lab analysts often have to travel long distances resulting in less time at the bench. At the end of this reporting period, 66.25% of cases submitted to the NMDPS Forensic Laboratory are completed and results sent back to the requesting agency within 42 days.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

- 1) During the reporting period 245 cases were analyzed using overtime and supplies. 122 profiles were entered into CODIS resulting in 36 hits. Grant funds were also utilized to pay for one full time forensic lab technician through March 2012 who completed several projects during the reporting period including preliminary testing/validation of a new forensic serology test.
- 2) Contractual services were completed in previous reporting period.
- 3) Equipment purchased utilizing these grant funds includes bone pulverization equipment, an electronic multichannel pipettor, an evidence screening table and rack system, an upright freezer, a shelving unit, and 2 ultrasonic cleaners (to be validated for use in DNA extraction). Additionally, several DNA quantification and amplification kits were purchased.
- 4) All travel in conjunction with continuing education and training were completed in previous reporting periods.
- 5) The increase for timeliness continues to have a slow but positive improvement. At the end of this reporting period, 63.1% of cases submitted to the NMDPS Forensic Laboratory are completed and results sent back to the requesting agency within 42 days. In addition, the average number of items processed per analyst per month has increased, resulting in a large reduction of backlogged cases.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

- 1) During the reporting period 176 cases were analyzed using overtime and supplies. 69 DNA profiles were entered into CODIS resulting in 27 hits. The DNA technician position was vacated in March 2012 and has not been filled to date.
- 2) Contractual services were completed in previous reporting period.

- 3) Equipment purchased utilizing these grant funds included upgraded pipettors for all stations located within the DNA laboratory and 1 upgraded centrifuge for sample tubes.
- 4) 2 forensic DNA analysts traveled to Nashville, TN in October 2012 utilizing these grant funds to attend the Promega International Symposium on Human Identification in order to obtain continuing education credit as well as provide networking opportunity for the DNA section of the NM DPS forensic laboratory.
- 5) The increase for timeliness has declined somewhat in the last half of 2012 due to the retirement of 1 DNA analyst and the hiring of 3 trainees in the DNA section – the addition of trainees has taken time away from other fulltime DNA analysts to aid in their training. At the end of this reporting period, 46.21% of cases submitted to the NMDPS Forensic Laboratory are completed and results sent back to the requesting agency within 42 days.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

- 1) During the reporting period 64 cases were analyzed using overtime and supplies. 26 DNA profiles were entered into CODIS resulting in 8 hits. The DNA technician position was filled in February 2013 and has proven to be a valuable asset to the Biology section of the laboratory.
- 2) Contractual services were completed in previous reporting period.
- 3) No equipment purchases utilizing funds from this grant were made during this time period.
- 4) No travel was provided to forensic scientists utilizing funds from this grant during this time period.
- 5) The timeliness of turn-around-time has declined since the second half of 2012 due to the retirement of 1 DNA analyst and the hiring of 3 trainees in the DNA section – the addition of trainees has taken time away from other fulltime DNA analysts to aid in their training. At the end of this reporting period, 18.25% of cases submitted to the NMDPS Forensic Laboratory are completed and results sent back to the requesting agency within 42 days. The reason for this rapid decrease in turn-around-time is due to a recent overall increase in cases submitted to the lab by law enforcement agencies; in addition, the training of new analysts has taken away some time on casework analysis from the fulltime DNA analysts.

FINAL REPORT:

- 1) During the entire duration of this grant (October 2010 through March 2013), a total of 901 cases were analyzed using overtime and supplies. 411 DNA profiles were entered into CODIS resulting in 148 hits. One DNA technician was employed utilizing these grant funds from April 2011 through March 2012. This technician completed several projects for our lab including preliminary testing and validation of a new forensic serology test. A second DNA technician was hired in February 2013 utilizing the 2011 grant funds. This technician is currently still in training, but has contributed a great deal to the Biology unit but organizing lab space, maintaining instruments, making stock reagents, and performing QA/QC.
- 2) Grant funds were utilized to contract for a validation study of a newly purchased genetic analyzer with a new DNA amplification kit by an outside vendor in an effort to advance technology in our lab while freeing up lab personnel to work on casework. Additionally,

grant funds were utilized to the in-house training of “Forensic Paternity Index Statistics” by Bode Technology Inc. This training, along with other training provided in-house, allowed the Biology section of the New Mexico DPS Forensics Lab to begin offering forensic paternity testing to its clients.

- 3) The database lab was established prior to this grant award; therefore, the grant was modified to change the scope of this goal and re-program funding. A new ABI 3500 genetic analyzer was purchased after funds were re-programmed in 2011. Additional equipment purchased with these grant funds include: a fume hood for bone processing, bone pulverization equipment, an uninterrupted power source, 2 microscopes for sample analysis, a DNA extraction/purification instrument, a PCR set-up instrument, Adobe Acrobat 10 software, an electronic multichannel pipettor, an evidence screening table and rack system, an upright freezer, a shelving unit, 2 ultrasonic cleaners (to be validated for use in DNA extraction), upgraded pipettors for all workbench locations with the Biology unit, an upgraded centrifuge for sample tubs, and several DNA quantification and amplification kits.
- 4) In order to obtain continuing education credit as well as provide networking opportunity for the Biology section of the NM DPS forensic laboratory, several DNA analysts traveled to forensic conferences utilizing these grant funds. In 2011, 2 analysts attended the American Academy of Forensic Sciences (AAFS) Annual Scientific Meeting, 3 analysts attended the Bode Technology Annual Advanced DNA Technical Workshop, and 1 analyst attended the Promega International Symposium on Human Identification. In 2012, 2 analysts attended the Promega International Symposium on Human Identification.
- 5) The timeliness of turn-around-time has declined significantly since the second half of 2012 due to the retirement of 1 DNA analyst and the hiring of 3 trainees in the DNA section – the addition of trainees has taken time away from other fulltime DNA analysts to aid in their training. At the end of this reporting period, 18.25% of cases submitted to the NMDPS Forensic Laboratory are completed and results sent back to the requesting agency within 42 days which is far from our goal of 75% of cases. The reason for this rapid decrease in turn-around-time is due to a recent overall increase in cases submitted to the lab by law enforcement agencies; in addition, the training of new analysts has taken away some time on casework analysis from the fulltime DNA analysts. The NMDPS Forensics Laboratory is hoping to once again be able to work towards that goal later in 2013 after we again have 9 fulltime DNA analysts working casework. Despite the lowering of the Biology section’s turn-around-time, the average number of items process per analyst per month has seen an increase since the beginning of this award period.

Final Project Report:

The following list of items describes some of the accomplishments and challenges faced during this project.

1. Personnel and Benefits:

The Laboratory was able to hire a technician April 18th, 2011 to March 30th, 2012.

This technician completed several projects for our lab including preliminary testing and validation of a new forensic serology test. This technician was extremely helpful in maintaining the DNA instruments, conducting qa/qc checks, assisting with validation studies, and taking on evidence custodial duties for the DNA section. This position was vacated on March 30th, 2012. The Forensic Scientists in the DNA

section worked overtime on a combined total of 901 cases, entering 411 profiles into CODIS. From these entries there were 148 hits. Most of the overtime funds were expended however not all of the funds were completely utilized.

2. Travel:

The Laboratory was able send a total of eight individuals to attend five conferences. This enables the Laboratory staff to keep abreast of new advancements and technologies. Attending these DNA specific conferences is a luxury but the benefits of remaining connected to the forensic community and the ability to meet the researches at the forefront of new innovations is invaluable.

3. Equipment:

The database lab was established prior to this grant award; therefore, the grant was modified to change the scope of this goal and re-program funding. A new ABI 3500 genetic analyzer was purchased after funds were re-programmed in 2011. Additional equipment purchased with these grant funds include: a fume hood for bone processing, bone pulverization equipment, an uninterrupted power source, 2 microscopes for sample analysis, a DNA extraction/purification instrument, a PCR set-up instrument, Adobe Acrobat 10 software, an electronic multichannel pipettor, an evidence screening table and rack system, an upright freezer, a shelving unit, 2 ultrasonic cleaners (to be validated for use in DNA extraction), upgraded pipettors for all workbench locations with the Biology unit, an upgraded centrifuge for sample tubs, and several DNA quantification and amplification kits..

4. Supplies:

The Laboratory utilized grant funds for supplies of casework backlog. The request for DNA kits, such as Identifiler, Identifiler Plus and Quantifiler Duo, were used to supplement the additional testing conducted under overtime. Also Sperm Hyliter stain for validation to improve sperm identification and some additional consumables to supplement the overtime which includes RSID-blood test for validation to provide the laboratory with a confirmatory serology test for the identification of human blood and filters for workstation hoods. The Crime Lab worked a combined total of the 901 cases with the supplies purchased with this grant, which supplemented the overtime. Other supplies were used for validation purposes.

5. Contracts:

Grant funds were utilized to contract for a validation study of a newly purchased genetic analyzer with a new DNA amplification kit by an outside vendor in an effort to advance technology in our lab while freeing up lab personnel to work on casework. Additionally, grant funds were utilized to the in-house training of "Forensic Paternity Index Statistics" by Bode Technology Inc. This training, along with other training provided in-house, allowed the Biology section of the New Mexico DPS Forensics Lab to begin offering forensic paternity testing to its clients.

6. Other Costs:

Other costs included registration fees for training conferences, the newest version of Adobe Acrobat software, several new shelving units, chairs, lamps, digital cameras, magnifiers, tweezers, multi-channel timers, and pipettors.

The grant project was successfully implemented despite enormous obstacles involving the state bureaucracy, economic hard times, and fluctuating needs. Even though we were only able to expend approximately 99% of the total grant award the funds that were expended enhanced the

laboratories capabilities by doubling the output, maintaining a good turn-around time, and entering more eligible DNA profiles into CODIS. This grant has been successful in furthering the mission of the DPS Forensic Laboratories to “build a safer, stronger New Mexico by providing the highest quality forensic analytical support to the State’s criminal justice community”.

FY10 Recipient Name: Las Vegas Metropolitan Police Department, Nevada

Award Number: 2010-DN-BX-K076

Award Amount: \$872,138

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

GOAL 1: Overtime funds will be used to process a minimum of 186 forensic DNA cases and enter eligible profiles into CODIS. Overtime will be initiated within 3 months of the grant award and will reduce the current DNA backlog. As outlined in the “Data Collection Plan” of this grant application, the required metrics will be reported to the National Institutes of Justice semi-annually or as required.

GOAL 2: The Laboratory will hire a LIMS Integration Specialist consultant to perform an assessment and facilitate the selection of a LIMS vendor after evaluating the needs of the LVMPD Forensic Laboratory.

Objective 1: The Laboratory will submit associated paperwork to hire a LIMS Integration Specialist consultant within 3 months of the grant award.

Objective 2: Within 6 months of the grant award, the LIMS Integration Specialist will assess the needs of the LVMPD and develop deliverables and the purchasing proposal.

GOAL 3: The Laboratory will purchase and integrate a LIMS.

Objective 1: The Laboratory will submit a sole source justification or competitive bid request to the National Institute of Justice and the Purchasing Unit of the LVMPD for approval to bid and/or purchase a LIMS system within 9 months of the grant award.

Objective 2: The Laboratory will initiate the implementation of the LIMS system within 12 months of the grant award.

Objective 3: The LIMS deployment into the LVMPD Forensic Lab will be completed by March 31, 2012.

GOAL 4: The Laboratory will spend remaining funds for travel, training, equipment and supplies within 18 months of the grant award.

Objective 1: The Laboratory will purchase LIMS-required hardware over the life cycle of the grant.

Objective 2: The Laboratory will send DNA examiners to national forensic meetings to fulfill continuing education requirements over the life cycle of the grant.

Objective 3: The Laboratory will purchase DNA-relevant journals and textbooks to fulfill literature review requirements over the life cycle of the grant.

GOAL 5: The Laboratory will reduce case turn-around-time and increase sample throughput.

Objective 1: Through the deployment of the LIMS system, the Biology/DNA Detail will reduce case turn-around-time by 10 days and database sample turn-around-time by 20 days from the beginning of the grant award to the end of the grant award.

Objective 2: Through the deployment of the LIMS system, the Biology/DNA Detail will increase the amount of casework samples processed per analyst per month by 15 and the amount of database samples processed per analyst per month by 40 from the beginning of the grant award to the end of the grant award.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

GOAL 1: The LVMPD initiated overtime on backlogged forensic cases in November 2010 and processed 64 cases during this reporting period. All required metrics were tracked and reported. The LVMPD will continue to process cases on overtime in the next reporting period.

GOAL 2: The LVMPD submitted a sole source justification GAN to hire a LIMS Specialist in November 2010. The sole source GAN was approved in December 2010. The Biology/DNA Detail will submit the LIMS Specialist professional services contract to the LVMPD's Purchasing Unit for approval in the next reporting period. Progress towards completing Objectives 1 & 2 will continue in the next reporting period.

GOAL 3: Goal 3 cannot be initiated until Goal 2 is complete. Progress to complete Goal 2 will continue in the next reporting period.

GOAL 4: Objective 1 will be completed towards the latter half of the grant's life cycle once the LIMS project gets underway. During this reporting period the Biology/DNA Detail submitted a department travel request to send two DNA employees to the American Academy of Forensic Sciences Meeting in Chicago, IL February, 2011. In October, one of the employees received notification from the American Academy of Forensic Sciences that her poster presentation "Refining Laboratory SOPs for Enhanced Consistency Through Incorporation of SWGDAM's Guidelines for Autosomal STR Typing" was accepted for presentation at this meeting. Presentation of this poster and conference attendance of two DNA employees will occur in the next reporting period. The Biology/DNA Detail evaluated several DNA-relevant journals for purchase during this reporting period. DNA-relevant journals will be purchased in the next reporting period.

GOAL 5: Objectives 1 & 2 will be evaluated towards the end of the grant life cycle once the LIMS system is incorporated.

General Comments 01 October - 31 December 2010: In evaluating the required metrics, it was noted there was an increase in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency (155 days to 202 days) 01 October - 31 December 2010. In addition, there was a drop in the number of samples analyzed per analyst **per month** (71 to 48) 01 October - 31

December 2010. During this reporting period casework analysis slowed as the Biology/DNA Detail focused on wrapping up three large validations associated with casework: new extraction chemistry, new quantitation chemistry and new amplification chemistry. In addition, the staff focused on training three new DNA examiners. The three new validations and the training program of two new examiners should be complete in the next reporting period which will enable the staff to focus on casework in 2011. It is expected the training program of the third new examiner will end in the latter half of 2011.

During this reporting period the forensic DNA backlog dropped from 1582 cases to 1103 cases. This is primarily due to the implementation of a sample limits policy which eliminates DNA analysis on touch evidence in property crimes cases. The policy also established a maximum number of items accepted for all crime categories related to Biology/DNA forensic examination requests. To help mitigate the increasing DNA backlog, the Forensic Laboratory evaluated which items of evidence produce the best results in relation to property crimes cases, and concluded that blood and saliva evidence produced far more CODIS-eligible DNA profiles than touch DNA evidence. As such, the Biology/DNA Detail closed over 700 touch DNA property-crimes cases which is the primary reason behind the drastic decrease in the backlog.

As there is a CODIS hit reporting lag due to confirmation testing requirements, the number of CODIS hits from the 55 CODIS entries during this reporting period may increase in the next reporting period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

GOAL 1: In June 2011 a GAN was approved to transfer funds from the Personnel category to the Consultants/Contracts and Travel category of the budget, dropping the number of forensic cases to be processed on overtime from 186 to 75. During this reporting period the Biology/DNA Detail processed 6 cases on federal funded overtime. All required metrics were tracked and reported. The Biology/DNA Detail has 5 more cases to process to meet Goal 1, and completion of this goal will continue into the next reporting period.

GOAL 2: During this reporting period the LIMS Integration Consultant hired with funds from this grant completed assessing and documenting the Forensic Lab's "as is" and "to be" workflow processes. The RFP to purchase a LIMS was completed in June 2011 and is currently pending final approval by the LVMPD's Purchasing Unit. Goal 2, Objectives 1 and 2 have been met.

GOAL 3: Since Goal 2 was completed during this reporting period, progress on Goal 3, Objectives 1 and 2 will begin in the next reporting period.

GOAL 4: Objective 1 will be completed towards the latter half of the grant's life cycle once a LIMS vendor is identified. In February 2011, two members of the Biology/DNA Detail attended the American Academy of Forensic Sciences Meeting in Chicago, IL. The LVMPD presented a poster titled "Refining Laboratory SOPs for Enhanced Consistency Through Incorporation of SWGDAM's Guidelines for Autosomal STR Typing" which

was very well-received. In the next reporting period, two more members of the Biology/DNA Detail will attend the 21st International Symposium on Human Identification Meeting in San Antonio, TX. Purchase of DNA-relevant journals and textbooks will occur in the next reporting period. Progress toward completing Goal 4 is ongoing.

GOAL 5: Objectives 1 & 2 will be evaluated towards the end of the grant life cycle once the LIMS system is incorporated.

General Comments 01 January – 30 June 2011: In evaluating the required metrics, it was noted there was a decrease in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency (155 days to 153 days) 01 October 2010 - 30 June 2011. The decrease in case turnaround time is due primarily to the number of DNA examiners processing casework since the Biology/DNA Detail released 4 DNA examiners from their training programs during this reporting period. However, there was a decrease in the number of samples analyzed per analyst per month (71 to 43) 01 October 2010 - 30 June 2011. During this reporting period casework analysis slowed as the Biology/DNA Detail focused on training three DNA trainees hired in March 2011. In addition, three new validations for extraction, quantitation and amplification chemistry were also finalized and brought online, slowing analysis as examiners participated in training, competency exams and learning new protocols associated with the new chemistry.

During this reporting period the forensic DNA backlog dropped from 1,582 cases to 1,440 cases 01 October 2010 - 30 June 2011. This decrease is primarily due to the implementation of a sample limits policy in December 2010 which eliminates DNA analysis on touch evidence in property crimes cases. The policy also established a maximum number of items accepted for all crime categories related to Biology/DNA forensic examination requests. The Biology/DNA Detail focused primarily on using federal funded overtime to process offender specimens for other NIJ grants during this reporting period, which accounts for the drop in the number of forensic cases processed on federal funded overtime during this reporting period. The Forensic Lab looks forward to continuing with progress on the LIMS project in the next reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

GOAL 1: During this reporting period, the Biology/DNA Detail processed 85 cases on federal funded overtime. All required metrics were tracked and reported. The Biology/DNA Detail processed a total of 155 cases on overtime for this grant which is more than double than the 75 cases the June 2011 GAN stated the LVMPD would process. In November 2011, a GAN was submitted and approved to help reduce the backlog even further through outsourcing backlogged forensic DNA casework. The Forensic Laboratory will outsource roughly 75 backlogged forensic DNA cases on a fee-for-service basis. The LVMPD expects to begin outsourcing cases with funds from this grant in the next reporting period. Goal 1 has been completed, but outsourcing progress will continue to be reported.

GOAL 2: Goal 2, Objectives 1 and 2 have been previously met.

GOAL 3: In September 2011, the open and competitive bidding process for the selection of a LIMS vendor was completed. Funds to purchase software, services and training from the LIMS vendor were aligned and approved in the grant budget through a GAN submitted in

November 2011. The LVMPD is in the final stages of approving the LIMS vendor contract and expects the contract to be awarded in the next reporting period. Once the contract is awarded, the forensic laboratory will begin working with the vendor to implement the LIMS system. Progress will continue on Goal 3, Objectives 1 and 2 in the next reporting period.

GOAL 4: In December 2011, a GAN was approved to purchase a back-up storage server for the LIMS. This item will be purchased in the next reporting period. Other LIMS-related hardware such as computers, barcode scanners and barcode printers will be purchased once the LIMS integration process is underway. During this reporting period, two members of the Biology/DNA Detail attended the 22nd International Symposium on Human Identification Meeting in National Harbor, MD. During this reporting period DNA textbooks were purchased and delivered. In addition, a purchase order was approved and submitted to the vendor for a DNA/Genetics journal. Since access to the journal is through the web, the LVMPD is evaluating the delivery logistics. Access is expected to be granted in the next reporting period. Goal 4 Objectives 1 and 3 are ongoing. Goal 4 Objective 2 has been met.

GOAL 5: Goal 5, Objectives 1 and 2 will be evaluated towards the end of the grant life cycle once the LIMS system is incorporated.

General Comments 01 July – 31 December 2011: In evaluating the required metrics, it was noted there was a decrease in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency (155 days to 149 days 01 October 2010 - 31 December 2011). The decrease in case turnaround time is due primarily to an increase in the number of DNA examiners processing casework (4 additional DNA examiners were released from their training programs January - June 2011, however one of the examiners resigned in September 2011).

Despite the decreased case turnaround time, a drop in the number of samples analyzed per analyst per month (71 to 39 01 October 2010 - 31 December 2011) has been noted. During this reporting period sample processing slowed as the Biology/DNA Detail focused on two large remediation projects. Both of the remediation efforts began during this reporting period and are expected to continue into the next reporting period.

During this reporting period the forensic DNA backlog climbed from 1,582 cases 01 October 2010 to 1,734 cases 31 December 2011. Due to the increase in the backlog, a GAN was submitted and granted in November 2011 to begin outsourcing backlogged DNA cases to a private DNA lab. Cases are currently being gathered and several batches of forensic DNA cases will be outsourced in the next reporting period.

The Forensic Lab looks forward to continuing the progress on the LIMS project in the next reporting period. In addition, a GAN will be filed in the next reporting period to request an extension on this grant.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

GOAL 1: During this reporting period, the Biology/DNA Detail outsourced 132 backlogged property crimes cases to a private DNA laboratory with funds from this grant. DNA reports are expected to be finalized and distributed in the next reporting period. Goal 1

has been completed, and outsourcing progress will continue into the next reporting period.

GOAL 2: Goal 2, Objectives 1 and 2 have been previously met.

GOAL 3: The LIMS contract was awarded in March 2012. The Forensic Lab's LIMS project kicked off in April 2012. The LIMS vendor has installed Client and Server components of the system including the core application platform and several ancillary modules. In addition, work began on the creation of specialized analytical worksheets, configuration of the system, and data migration planning for our legacy request database and inventories. The project is moving forward and progress will continue on Goal 3, Objectives 2 and 3 in the next reporting period. Objective 1 of Goal 3 has been met.

GOAL 4: During this reporting period, hard drives for the forensic lab's existing backup storage were purchased and installed to support the LIMS system in the event the lab's server becomes incapacitated. Other LIMS-related hardware such as computers, barcode scanners and barcode printers will be purchased in the next reporting period. Online access was granted to a DNA/Genetics journal during this reporting period. Two members of the Biology/DNA Detail will attend the 23rd International Symposium on Human Identification Meeting in Nashville, TN in the next reporting period. Goal 4 Objective 1 completion is ongoing. Goal 4 Objectives 2 and 3 have been met.

General Comments 01 January – 30 June 2012: In evaluating the required metrics, it was noted there was a significant increase in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency (155 days to 293 days 01 October 2010 - 30 June 2012). This increase can be directly attributed to older cases being closed without analysis as a result of research performed prior to the initiation of the Biology/DNA Detail's outsourcing focus. This research revealed 221 cases (i.e., primarily property crimes, of which many were requested approximately 2 years ago) that no longer required DNA analysis because the cases had been plead or solved since the DNA request had been submitted. This group of "completed cases" alone had an average combined turnaround time of 442 days, which dramatically increased the overall turnaround time of the Biology/DNA Detail for this reporting period. The use of outsourcing grant funds over the life cycle of this grant will allow the Biology/DNA Detail to complete the oldest cases currently contained in the backlog, which may result in prolonged increased turnaround times as the number of days between request submission and case completion will be high. After the Biology/DNA Detail completes the oldest cases in the backlog, case turnaround time will decrease.

A drop in the number of samples analyzed per analyst per month (71 to 36 01 October 2010 - 30 June 2012) has also been noted. During this reporting period sample processing slowed as the Biology/DNA Detail continued its focus on two large remediation projects. Both of the remediation efforts began during the last reporting period.

During this reporting period the forensic DNA backlog climbed from 1,582 cases 01 October 2010 to 1,767 cases 30 June 2012. Due to the increase in the backlog, the Biology/DNA Detail outsourced 132 backlogged property crimes cases during this reporting period. DNA reports are expected to be finalized and distributed in the next reporting period which should have a positive impact on the backlog. Cases are currently being gathered and batches of forensic DNA cases will continue to be outsourced in the next reporting period.

The Forensic Lab looks forward to continuing the progress on the LIMS project and outsourcing backlogged forensic DNA cases in the next reporting period.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

GOAL 1: During this reporting period, the Biology/DNA Detail reported 132 backlogged property crimes cases outsourced to a private DNA laboratory with funds from this grant. Details associated with the types of cases processed, the number of CODIS entries and the number of CODIS hits can be found in the “General Comments” section below. An additional 67 backlogged cases were sent for outsourced DNA analysis during this reporting period. The DNA reports for these cases are expected to be finalized and distributed in the next reporting period. Goal 1 has been completed, and outsourcing progress will continue into the next reporting period.

GOAL 2: Goal 2, Objectives 1 and 2 have been previously met.

GOAL 3: The LIMS contract was awarded in March 2012. The Forensic Lab’s Laboratory Information Management System (LIMS) project kicked off in April 2012. During this reporting period, the Forensic Lab focused on the LIMS planning phase of the project, which includes data migration and Worksheet/Report specifications. Lab-wide progress in this arena has been slow, and as such the LIMS vendor was sent a notice in December 2012 mandating that the LIMS implementation project must be completed in the next reporting period. A firm schedule, agreed upon by all parties, will be enforced to ensure the successful completion of this project.

In December 2012, a budget GAN and a modified Sole Source Justification GAN were submitted to move funds as necessary to augment additional LIMS integration support. It is expected both the budget modification GAN and the modified Sole Source GAN will be approved in the next reporting period.

Work on the implementation phase of the LIMS project will be accelerated to ensure that the LIMS product is completely installed, configured, and integrated with laboratory processes in the next reporting period. The LIMS support contract will assist with user training and procedural revisions in the next reporting period prior to the LIMS system going “live”. Progress will continue on Goal 3, Objectives 2 and 3 in the next reporting period. Objective 1 of Goal 3 has been met.

GOAL 4: During this reporting period, barcode printers and scanners were purchased and received at the Forensic Lab to support the LIMS system. Other LIMS-related hardware such as computers and wireless equipment and installation will be purchased as needed in the next reporting period. All funds associated with travel and journal/textbook purchases have been exhausted. Goal 4 Objective 1 is ongoing. Goal 4 Objectives 2 and 3 have been met.

General Comments 01 July – 31 December 2012: In evaluating the required metrics, it was noted there was a significant increase in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency (155 days to 349 days 01 October 2010 - 31 December 2012). This increase can be directly attributed to older cases being closed without analysis as a result of research performed prior to the initiation of the Biology/DNA Detail’s outsourcing focus. This research revealed 256 cases (i.e., primarily property crimes, of which many were requested approximately 2 years ago) that no longer required DNA analysis because the cases had been plead or solved since

the DNA request had been submitted. This group of “completed cases” alone had an average combined turnaround time of 426 days, which dramatically increased the overall turnaround time of the Biology/DNA Detail for this reporting period. The use of outsourcing grant funds over the life cycle of this grant will allow the Biology/DNA Detail to complete the oldest cases currently contained in the backlog, which may result in prolonged increased turnaround times as the number of days between request submission and case completion will be high. After the Biology/DNA Detail completes the oldest cases in the backlog, case turnaround time will decrease.

A drop in the number of samples analyzed per analyst per month (71 to 42 01 October 2010 - 31 December 2012) has also been noted. During this reporting period sample processing slowed as three forensic scientists in the DNA training program graduated to the supervised casework phase of their training programs. Journey level forensic scientists were required to oversee all of the laboratory work being conducted by individuals nearing the completion of their training programs, thereby slowing the section’s progress in performing casework. During this reporting period, the forensic DNA backlog dropped from 1,582 cases 01 October 2010 to 1,519 cases 31 December 2012. This backlog reduction can be directly attributed to the completion of 132 outsourced DNA cases during this reporting period. The crime classification, number of CODIS entries and number of CODIS hits associated with the 132 outsourced cases is provided below. Of interest, property crimes cases consistently prove to be the most successful type of case outsourced with 74% of all the property crimes cases resulting in a CODIS entry, and 62% of all CODIS entries resulting in a CODIS hit (46% of the 132 property crimes cases outsourced resulted in a CODIS hit).

01 July – 31 December 2012 Outsourcing	Number of Cases Outsourced	Number of CODIS Entries	Number of CODIS Hits
Burglaries	101	74	45
Auto Thefts	26	20	15
Grand Larceny	3	3	1
Assault with a Deadly Weapon	1	0	0
Injury to Property	1	1	0
Totals	132	98	61

An additional 67 backlogged cases were sent for outsourced DNA analysis during this reporting period. The DNA reports for these cases are expected to be finalized and distributed in the next reporting period.

A grant extension GAN will be filed in the next reporting period to extend the end of this grant from March 31, 2013 to September 30, 2013. In addition, the Forensic Lab looks forward to continuing the progress on the LIMS project and outsourcing backlogged forensic DNA cases in the next reporting period.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

GOAL 1: During this reporting period, the Biology/DNA Detail reported 67 backlogged property crimes cases outsourced to a private DNA laboratory with funds from this grant resulting in 70 CODIS entries and 36 CODIS hits. Two CODIS hits occurred from cases outsourced 01 January – 30 June 2012. Details associated with the types of cases processed, the number of CODIS entries and the number of CODIS hits can be found in the “General Comments” section below. Goal 1 has been completed, and funds for outsourcing have been depleted.

GOAL 2: Goal 2, Objectives 1 and 2 have been previously met.

GOAL 3: The LIMS contract was awarded in March 2012. The Forensic Lab’s Laboratory Information Management System (LIMS) project kicked off in April 2012. During this reporting period, work on the implementation phase of the LIMS project was accelerated to ensure that the LIMS product is deployed in the next and final reporting period of this grant. Objective 1 of Goal 3 has been previously met. Progress will be finalized on Goal 3, Objectives 2 and 3 in the next reporting period.

GOAL 4: In March 2013, the Forensic Lab’s wireless conversion for the LIMS project was completed. Excess funds from this phase were converted in a GAN that was approved in June 2013 to purchase a hood for screening forensic DNA samples in a screening room. The purchase of this hood has been submitted to the LVMPD’s Purchasing Unit for approval and will be purchased in the next reporting period.

General Comments 01 January – 30 June 2013: In evaluating the required metrics, it was noted there was a significant increase in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency (155 days to 287 days 01 October 2010 – 30 June 2013). This increase can be directly attributed to older cases being closed without analysis as a result of research performed prior to the initiation of the Biology/DNA Detail’s outsourcing focus. This research revealed 195 cases (i.e., primarily property crimes, of which many were requested approximately 2 years ago) that no longer required DNA analysis because the cases had been plead or solved since the DNA request had been submitted. This group of “completed cases” alone had an average combined turnaround time of 438 days, which dramatically increased the overall turnaround time of the Biology/DNA Detail for this reporting period. The use of outsourcing grant funds over the life cycle of this grant has enabled the Biology/DNA Detail to complete the oldest cases currently contained in the backlog, which has resulted in prolonged increased turnaround times as the number of days between request submission and case completion are high. After the Biology/DNA Detail completes the oldest cases in the backlog, case turnaround time will decrease.

A drop in the number of samples analyzed per analyst per month (71 to 36 01 October 2010 – 30 June 2013) has also been noted. During this reporting period sample processing slowed as members of the Biology/DNA Detail focused on finalizing case processing details associated with the final stages of the LIMS project in conjunction with preparing for the Laboratory’s upcoming ISO 17025 assessment in September 2013.

During this reporting period, the forensic DNA backlog dropped from 1,582 cases 01 October 2010 to 1,250 cases 30 June 2013. This backlog reduction can be directly attributed to the completion of 67 outsourced DNA cases during this reporting period. The crime classification, number of CODIS entries and number of CODIS hits associated with the 67

outsourced cases is provided below. Of interest, property crimes cases consistently prove to be the most successful type of case outsourced (highlighted in bold) with 100% of all the property crimes cases resulting in a CODIS entry, and 51% of all CODIS entries resulting in a CODIS hit (55% of the 66 property crimes cases outsourced resulted in a CODIS hit).

01 January – 30 June 2013 Outsourcing	Number of Cases Outsourced	Number of CODIS Entries	Number of CODIS Hits
Burglaries	57	60	32
Auto Thefts	7	8	3
Grand Larceny	2	2	1
Sexual Assault	1	0	0
Totals	67	70	36

The Forensic Lab looks forward to finalizing the LIMS project and ending this grant in the next reporting period.

FINAL PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

GOAL 1: Funds for overtime and outsourcing were previously exhausted. Goal 1 was previously met.

GOAL 2: Goal 2, Objectives 1 and 2 have been previously met.

GOAL 3: The LIMS contract was awarded in March 2012. The Forensic Lab’s Laboratory Information Management System (LIMS) project kicked off in April 2012. From April 2012 until September 2013, the LIMS system was prepared and customized for lab-wide implementation. On October 7, 2013, the LIMS system was deployed to the entire Forensic Lab and has been in use by all scientific sections (forensic DNA casework, DNA database analysis, toxicology, firearms and toolmark comparisons, controlled substance analysis, latent print comparisons, document and shoeprint examinations, and trace evidence examinations) since that date. Although behind schedule, Goal 3, Objectives 1 – 3 have been met.

GOAL 4: In March 2013, the Forensic Lab’s wireless conversion for the LIMS project was completed. Excess funds from this phase were converted in a GAN that was approved in June 2013 to purchase a hood for screening forensic DNA samples in a screening room. The hood was received and installed in September 2013. Goal 4, Objectives 1 – 3 have been met.

General Comments 01 July – 30 September 2013:

In evaluating the required metrics, it was noted there was a significant increase in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency from 01 October 2010 – 30 September 2013 (155 days to 288 days). This increase can be directly attributed to older cases being closed without analysis as a result of research performed prior to the initiation of the Biology/DNA Detail’s outsourcing focus. This research revealed 109 cases (i.e., primarily property crimes, of which many were requested approximately 2 years ago) that no longer required DNA analysis because the cases had been plead or solved since the DNA request had been submitted. This

group of “completed cases” alone had an average combined turnaround time of 285 days. After the Biology/DNA Detail completes the oldest cases in the backlog, case turnaround time will decrease.

A drop in the number of samples analyzed per analyst per month from the beginning of this grant to the end of this grant (71 to 38 01 October 2010 – 30 September 2013) has also been noted. During this final reporting period, sample processing slowed as members of the Biology/DNA Detail focused on finalizing case processing details associated with the final stages of the LIMS project in conjunction with preparing for the Laboratory’s upcoming ISO 17025 assessment in September/October 2013.

Final Comments:

In evaluating the final grant metrics for 2010-DN-BX-K076, it was noted there was a significant increase in the average number of days between the submission of a request for DNA analysis and the delivery of test results to the requesting agency from the beginning of the grant until the end of the grant (155 days to 274 days 01 October 2010 – 30 September 2013). This increase can be directly attributed to older cases being closed without analysis as a result of research performed prior to the initiation of the Biology/DNA Detail’s outsourcing focus. Over the lifetime of this grant, this research revealed 875 cases (i.e., primarily property crimes, of which many were requested approximately 2 years ago) that no longer required DNA analysis because the cases had been plead or solved since the DNA request had been submitted. The use of outsourcing grant funds over the life cycle of this grant has enabled the Biology/DNA Detail to complete the oldest cases currently contained in the backlog, which has resulted in prolonged increased turnaround times as the number of days between request submission and case completion are high. After the Biology/DNA Detail completes the oldest cases in the backlog, case turnaround time will decrease.

In evaluating the number of samples processed per analyst per month over the life cycle of this grant, sample processing dropped from 71 samples per analyst per month to 37 samples per analyst per month 01 October 2010 – 30 September 2013. A number of factors including training additional DNA staff members, designing and customizing the LIMS system for integration, and preparing for the Forensic Lab’s first ISO 17025 assessment in September/October 2013 caused the decline in the number of samples processed per analyst per month.

From the beginning of this grant to the end of this grant, the forensic DNA backlog dropped from 1,582 cases 01 October 2010 to 1,289 cases 30 September 2013. This backlog reduction can be directly attributed to the combined efforts associated with outsourcing and using federal funded overtime to complete cases contained in DNA’s forensic casework backlog. Federal funding enabled 231 DNA profiles to be entered into CODIS which yielded 107 CODIS hits from 354 cases that were processed on overtime or completed through DNA outsourcing associated with this grant.

Goal 1 of this grant was to process 75 cases on federal funded overtime. The Biology/DNA Detail actually processed 155 cases on overtime, which is 106% above this goal. These 155 cases yielded 63 CODIS entries and 10 CODIS hits.

With the hiring of a LIMS Specialist (Goal 2) to assist with the purchase and deployment of the LIMS system (Goal 3), the Forensic Lab’s LIMS was successfully deployed on October 7, 2013 to the entire Forensic Lab and has been in use by all scientific sections (forensic DNA casework, DNA database analysis, toxicology, firearms and toolmark comparisons,

controlled substance analysis, latent print comparisons, document and shoeprint examinations, and trace evidence examinations) since that date.

In February 2011, two members of the Biology/DNA Detail attended the American Academy of Forensic Sciences meeting in Chicago, IL. The LVMPD presented a poster titled “Refining Laboratory SOPs for Enhanced Consistency Through Incorporation of SWGDAM’s Guidelines for Autosomal STR Typing” at this meeting which was very well-received. In October 2011, 2 members of the Biology/DNA Detail attended the 22nd International Symposium on Human Identification meeting in National Harbor, MD. In October 2012, 2 members of the Biology/DNA Detail attended the 23rd International Symposium on Human Identification Meeting in Nashville, TN. These meetings satisfied DNA continuing education requirements set forth by FBI for DNA scientists who attended these symposiums. Over the life cycle of this grant, the Biology/DNA Detail also ordered DNA textbooks and DNA journals (Goal 4).

The Forensic Lab purchased and installed hard drives for the forensic lab’s existing backup storage to support the LIMS in the event the lab’s server becomes incapacitated.

Additionally, barcode printers and scanners for the LIMS were purchased. The Forensic Lab also underwent a wireless conversion for the LIMS. Finally, a biological hood for screening forensic DNA samples was purchased and installed in the Biology/DNA Detail (also Goal 4).

With the deployment of the LIMS, it was anticipated the number of cases analyzed by each DNA scientist will effect a ten (10) day reduction in the average number of days between submission of DNA evidence to the Forensic Laboratory and the delivery of results to the requesting agent. Databasing samples will effect a twenty (20) day reduction in processing time from receipt at the forensic laboratory through processing and uploading into CODIS. In addition, examiners will benefit from increased sample throughput which will result in fifteen (15) additional casework samples analyzed by each DNA examiner per month and forty (40) additional database samples analyzed by each DNA examiner per month.

Due to the fact the LIMS was deployed on October 7, 2013, after the end of this grant, it is not possible to evaluate the anticipated increase in efficiency of the Biology/DNA Detail at this time. However, the forensic lab is optimistic the LIMS will promote overall efficiency in DNA once all scientists become acquainted with processing casework through this system. This DNA backlog reduction grant has been another successful program and cooperative effort between the Las Vegas Metropolitan Police Department and the National Institute of Justice.

FY10 Recipient Name: Suffolk County, New York

Award Number: 2010-DN-BX-K084

Award Amount: \$246,252

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To purchase a genetic analyzer 3500 and a maintenance contract for this instrument.

Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

Goal 2: To purchase GeneMapper ID-X clients (3) (5) and obtain training on this software from ABI. Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

Goal 3: To hire contract employee(s) to screen evidence.

Goal 4: To hire a service to do validation of the genetic analyzer 3500 and Identifiler Plus.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Obligation of funds from this grant during this reporting period was not commenced due to Suffolk County accounting and procurement procedures. It was not permissible to place orders for equipment funded by this grant during this period.

Resolution by Suffolk County Legislature to Accept and Appropriate Grant Funds was approved on December 7, 2010

Capacity enhancement purchase orders for equipment, software and consultants related to purchase and validation of funded equipment will be made beginning in 2011.

This current grant does not provide funds for casework and are not applicable to report in the casework performance metrics. Therefore, the data are entered as Zero - (0).

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Obligation of funds from this grant during this reporting period was not commenced.

Goal 1 and 2: Capacity enhancement purchase orders for equipment, software and consultants related to purchase and validation of funded equipment will be made following submission and approval of a Sole Source GAN for purchases to a single vendor exceeding \$100,000.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Sole Source Approval GAN was received on 8-25-2011, providing authorization for purchase of items that are the subject of Goal 1 and Goal 2.

Goal 1: To purchase a genetic analyzer 3500 and a maintenance contract for this instrument.

Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

- The ABI 3500 genetic analyzer has been purchased, delivered and set-up, awaiting validation and training. It has not been validated and used in casework.

Goal 2: To purchase GeneMapper ID-X clients (~~3~~) (5) and obtain training on this software from ABI. Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

- The GeneMapper ID-X clients were delivered along with the ABI 3500. Training has been postponed until further approval is received from NIJ to hold training on the software.

Goal 3: To hire contract employee(s) to screen evidence.

- One contract employee began working on this project in October, 2011. Prior to commencing work on this project, payment for the contract employee was funded by 2009-DN-BX-K072. It is not possible to determine the number of cases that have been screened for in-house analysis in the performance metrics section of this report.

Goal 4: To hire a service to do validation of the genetic analyzer 3500 and Identifiler Plus.

- A validation service for the genetic analyzer 3500 and Identifiler Plus kits was awarded by competitive open-bid to ABI.
- Validation of the genetic analyzer 3500 and Identifiler Plus kits has not commenced. This activity is to take place at the same time that training will take place. Therefore, validations are postponed until the training is approved by NIJ.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period, application has been made for approval to hold in-house training on the ABI 3500 genetic analyzer. At the time of this report, approval has still not been received. This has delayed completion of Goals 1, 2, and 4.

Goal 1: To purchase a genetic analyzer 3500 and a maintenance contract for this instrument.

Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

- The ABI 3500 genetic analyzer has been purchased, delivered and set-up, awaiting validation and training. It has not been validated and used in casework. Validation and training to be completed once training is approved by NIJ.

Goal 2: To purchase GeneMapper ID-X clients (~~3~~) (5) and obtain training on this software from ABI. Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

- The GeneMapper ID-X clients were delivered along with the ABI 3500. Training has been postponed until further approval is received from NIJ to hold training on the software.

Goal 3: To hire contract employee(s) to screen evidence.

- Program Office Approval enabled increase of funding for contract employee by \$11,101. During this reporting period, January 1, 2012 through June 30, 2012, sixty (60) cases have been screened for in-house analysis. Additionally, thirty-five (35) cases were screened for in-house analysis, and were not reported for the previous reporting period, July 1, 2011 through December 31, 2011. CODIS Data is not available for these cases, and is not reported here to avoid multiple counting of cases.

Goal 4: To hire a service to do validation of the genetic analyzer 3500 and Identifiler Plus.

- A validation service for the genetic analyzer 3500 and Identifiler Plus kits was awarded by competitive open-bid to ABI. There was a cost savings of \$13,600 from original grant application distributed \$11,101 toward Goal 3, and additional dry bath equipment was ordered by program office approval.
- Data was collected by ABI, (ABI changed their name to Life Technologies, Inc.) for validation of the genetic analyzer 3500 and Identifiler Plus kits. Completion of validation is to take place at the same time that training will take place. Therefore, validations are postponed until the training is approved by NIJ.

PROGRESS REPORT 5: July 1, 2012 – September 30, 2012

During this reporting period, an e-mail was received from the Program Manager regarding clarification for approval to hold in-house training on the ABI 3500 genetic analyzer. It had been determined that the training was “operational” and did not require further formal approval from NIJ/OJP. Thus, it became possible to complete the training associated with this program.

Goal 1: To purchase a genetic analyzer 3500 and a maintenance contract for this instrument.

Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

- The ABI 3500 genetic analyzer has been purchased, delivered and set-up. Training on the operation of the 3500 genetic analyzer was completed by Life Technologies, Inc. The instrument is currently in the final stages of in-house validations and procedure writing before it can be utilized by the DNA Analysts in casework.

Goal 2: To purchase GeneMapper ID-X clients (~~3~~) (5) and obtain training on this software from ABI. Note: This Goal was modified with the Budget Modification GAN approved in August 2011.

- The GeneMapper ID-X clients were delivered along with the ABI 3500. Training on the use of the GeneMapper ID-X software was completed by Life Technologies, Inc. The software will begin use on casework when the 3500 goes into service for casework.

Goal 3: To hire contract employee(s) to screen evidence.

- Completed expending funds during this reporting period. Remaining funding for the contract employee funded two weeks of services in July 2012.

Goal 4: To hire a service to do validation of the genetic analyzer 3500 and Identifiler Plus.

- During the reporting period, funds from the cost savings of \$13,600 from original grant application, continued to fund contract employees of Goal 3. These funds were fully expended. Complete.
- The dry bath equipment ordered during the prior reporting period was delivered and placed into service for casework. Completed.
- The data that was collected by ABI, (ABI changed their name to Life Technologies, Inc.) for validation of the genetic analyzer 3500 and Identifiler Plus kits was delivered. Completion of validation by Life Technologies, Inc. was completed.
- Training by Life Technologies, Inc. was held September 11 through September 14, 2012. Training included presentation of the validation studies and training in the utilization of the 3500 genetic analyzer, GeneMapper ID-X software and Identifiler Plus kits. Completed.

FINAL REPORT:

Program Overall

Since the beginning of the DNA Backlog Reduction programs, the funding has sustained the DNA analysis program in the Suffolk County Crime Laboratory. The DNA Backlog Reduction Program has supplemented capital expenses by providing expensive DNA instrumentation as it is introduced and through the many upgrades. This funding has provided 3 generations of genetic analyzers, for example. Funding has provided supplies and kits utilized in DNA testing and provided for maintenance contracts to be able to keep the equipment running optimally. DNA Backlog Reduction funding has enabled the continual compliance with the FBI Quality Assurance Standards for Forensic DNA Testing Laboratories.

FY 2010 Program Specific Impact

Funding has been provided for purchase of a new 3500 genetic analyzer. The instrument has been validated by Life Technologies, Inc. and the instrument is currently in the final stages of in-house validations and procedure writing before it can be utilized by the DNA Analysts in casework.

GeneMapper ID-X clients were delivered along with the ABI 3500. Training on the use of the GeneMapper ID-X software and utilization of the ABI 3500 was completed by Life Technologies, Inc. The software will begin use on casework when the 3500 goes into service for casework

During the grant period of this award, the Suffolk County Crime Laboratory lost 2 of its permanent Forensic Scientist DNA analysts due to one promotion and the other to seeking further educational pursuits. The Crime Laboratory had not received authorization to fill the vacated positions.

During this time, the contract employee assisted in the analyses of sexual assault DNA evidence and No-suspect property crime DNA evidence. Overall, the contract employee contributed to

analysis of 95 Biological Section cases. Among the 95 cases, profiles from 42 of the cases were entered in CODIS, and 11 of the profiles entered into CODIS resulted in CODIS hits. The contract employee described above resigned for a permanent position in another state. A second contract employee began working on this program at the end of the funding available for the contract employee, and was only involved in receiving training in Sexual Assault Casework.

FY10 Recipient Name: County of Westchester, New York

Award Number: 2010-DN-BX-K042

Award Amount: \$220,330

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Training – Allow analysts to attend the 2011 Promega meeting in October, 2011.

Goal 2: Equipment - Purchase and validate equipment to help reduce backlog.

Goal 3: Supplies - Purchase supplies to be used in casework.

Goal 4: Technician - Utilize a temporary laboratory technician.

Goal 5: Service contract- purchase service contracts on the genetic analyzers and real-time PCR instruments.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During this reporting period we have attempted to address our goals and objectives of reducing our backlog in several ways.

Goal 1: The only money for training is for the Oct 2011 Promega meeting

Goal 2: The laboratory has received a quote from ABI on the purchase of a model 3500 genetic analyzer. We are currently in the process of writing up the order

Goal 3: We are in the process of writing up the order for supplies to be used in this grant. The sole source GAN was recently accepted and we can now proceed with the supply order as well as the equipment order.

Goal 4: These funds have not been utilized as the technician employed still has funding from the 09 Backlog grant. This money will run out shortly and she will then be picked up by the 2010 money.

Goal 5: Service contracts have been obtained on two genetic analyzers and one real-time instrument.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this reporting period we have attempted to address our goals and objectives of reducing our backlog in several ways.

Goal 1: The only money for training is for the Oct 2011 Promega meeting.

Goal 2: The laboratory has purchased a model 3500 Genetic Analyzer. We are currently in the process of validating this instrument.

Goal 3: Supplies have been purchased.

Goal 4: Has been carried over from previous BLR grant.

Goal 5: Service contracts have been obtained on two genetic analyzers and one real-time instrument.

Metrics 7, 8, and 9 were "0" because the laboratory was participating in a State funded Byrne grant to address backlog burglary cases. A room, equipment, and Byrne funded supplies were dedicated to this grant. We have completed that grant and now will be using the designated room, equipment, and BLR supplies to address cases as outlined in our current BLR grant. A system has been set-up in our LIMS specifically to tag BLR cases and to associate any supplies purchased under this grant to those cases.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Goal 1: Training – Allow analysts to attend the 2011 Promega meeting in October, 2011. DNA technical leader and 1 DNA analyst attended the 2011 Promega meeting
- Goal 2: Equipment - Purchase and validate equipment to help reduce backlog. Instrument validation continues. Delay in bringing it on line is a result of growing backlog and the need to allocate resources to casework. We are making every effort to devote some time each week toward finishing the validation.
- Goal 3: Supplies - Purchase supplies to be used in casework. Supplies were purchased and used in the analysis of backlogged case work
- Goal 4: Technician - Utilize a temporary laboratory technician. A budget modification was obtained to allow us to hire two temporary technicians instead of 1. Each worked on assisting analysts in the extraction, quantification, amplification and data capture on the following number of Backlogged DNA cases that were identified as funded through this grant
 - Technician # 1 A. D. – 74 cases
 - Technician #2 A.V. - 177 cases
- Goal 5: Service contract- purchase service contracts on the genetic analyzers and real-time PCR instruments. Service contracts have been obtained on two genetic analyzers and one real-time instrument

FINAL REPORT:

- Goal 1: Training - In addition to having analysts attend the Promega Meeting we were able to send several analysts to a Forensic DNA Relationship Training class in New York City as well as a DNA session at a regional DNA meeting.
- Goal 2: Equipment - Purchase and validate equipment to help reduce backlog. Instrument validation continues. Delay in bringing it on line is a result of growing backlog and the need to allocate resources to casework. We are making every effort to devote some time each week toward finishing the validation. Validation is almost complete.
- Goal 3: Supplies - Purchase supplies to be used in casework. Supplies were purchased and used in the analysis of backlogged case work.
- Goal 4: Technician - Utilize a temporary laboratory technician. A budget modification was obtained to allow us to hire three temporary technicians instead of 1. Each worked on assisting analysts in the extraction, quantification, amplification and data capture on the following number of backlogged DNA cases that were identified as funded through this grant. Total number of cases they have assisted on is 83.

Goal 5: Service contract- purchase service contracts on the genetic analyzers and real-time PCR instruments. Service contracts have been obtained on two genetic analyzers and one real- time instrument.

Funding from this grant has greatly assisted the laboratory in addressing the increase in demand for the examination of all categories of crimes, particularly burglaries. Between 2010 and 2011 the number of burglary submissions to the laboratory has doubled .In addition our County has also experienced an increase in home invasion cases some of which have started out as burglaries. The confrontations that have resulted have in some cases been extremely violent.

Because of the increase in the home invasion potential of burglary cases, police are now placing greater emphasis on the investigation and collection of DNA evidence. They understand the potential for CODIS to provide them with an effective tool in rapidly identifying a suspect and possibly preventing a future incident. Subsequently the laboratory not only must examine a greater number of submissions of these types of cases but must provide a much faster turnaround time for investigators. This grant has played an important part in our efforts to provide investigators with the information they need on these types of cases.

Funding has permitted us to hire several technicians to assist analysts with the increase in caseloads caused by the added burglary submissions. These technicians help perform ancillary functions that would divert analysts from their primary missions if they had to perform them themselves. Technicians help in the evidence examination process, help prepare reagents, set up runs, accumulate data and perform numerous QA functions necessary to maintain the quality of analysis. This permits analysts to identify the best samples for DNA analysis and to issue reports to user agencies in a timelier manner. These technicians add a much needed boost in capacity for the DNA laboratory. Funding also covers service agreements that keep our DNA instruments in proper working order, reducing down time due to breakdowns and repair. The funding provided for supplies also assist us in being able to cover the costs of attacking the backlog this increase in submissions has caused. We are currently finishing up the validation of the instrument purchased through this grant and its addition will also add to the labs capacity to handle the increase in cases.

Just prior to the beginning of this grant State funding cuts eliminated 3 grant positions in our DNA section. In addition 3 members of our current DNA staff were on maturity leave during various periods covered in this grant. The combination of these factors has contributed to the backlog and turnaround time of cases we are currently experiencing. Without the funding provided by this grant our backlog and turnaround time would be much greater and our ability to serve our user agencies would have been seriously impaired.

The laboratory would like to thank the NIJ for the assistance they have provided over the years, particularly lately, during the difficult economic times we face. The NIJ's support in a wide variety of areas have helped our laboratory enhance our operations, increase our capacity to handle the rise in cases submissions and given us a tool to tackle the challenge of case backlogs. We thank the NIJ for its support and hope to continue this cooperative relationship in the future.

FY10 Recipient Name: Monroe County, New York

Award Number: 2010-DN-BX-K090

Award Amount: \$238,475

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: Provide continuing education for existing DNA analysts.
- Goal 2: Maintain accreditation by providing maintenance agreements for critical equipment and purchasing necessary proficiency tests.
- Goal 3: Upgrade equipment to meet current standards and specifications. Purchase equipment to furnish the new laboratory facility.
- Goal 4: Reduce the backlog of violent crime cases by providing 200 hours of overtime for eligible analysts to process casework samples.
- Goal 5: Purchase supplies for processing casework samples primarily for use in the quantification and fragment analysis steps of the DNA process.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Not required.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: One existing DNA analyst traveled to the Bode conference in Amelia Island, Florida in May.

Goal 2: One maintenance agreement was obtained with direct Q3 water system.

Goal 3: No progress during this report period.

Goal 4: No progress during this report period.

Goal 5: No progress during this report period.

Unexpected Outcome: The Monroe County Crime Laboratory recently acquired a newly constructed 45,000 square foot facility and moved all operations to the new site. As the organization begins casework production, Forensic Biology management believes a different pathway to reach the goal of reducing section backlogs would be more appropriate. Employees are committed to casework completion during work hours and are foregoing the use of overtime. Additionally, the painfully slow grant approval process at the County has made it impossible to use funding designated for supplies until after our move was complete. Management is in the process of drafting a Grant Adjustment proposal outlining a plan, given our change in circumstances, which would best assist in reaching our ultimate goal of decreasing backlogs and providing quality and timely results.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Two existing DNA analysts traveled to the Green Mountain Conference in Burlington, Vermont in July. Two existing DNA analysts traveled to the Promega Conference in Washington DC in October. Two trainees traveled to the HID University in Frederick, Maryland in October.

Goal 2: There were 10 CTS proficiency tests, 2 CAP proficiency tests and 18 Orchid Cellmark proficiency tests purchased. Thermometer and pipette calibrations were completed.

Goal 3: No progress during this report period.

Goal 4: No progress during this report period.

Goal 5: No progress during this report period.

Unexpected Outcome: The Monroe County Crime Laboratory began casework production in the new facility during this grant period and Forensic Biology management believes a different pathway to reach the goal of reducing section backlogs would be more appropriate. Employees are committed to casework completion during work hours and are foregoing the use of overtime. Additionally, the State contract with Applied Biosystems lapsed making it impossible for the Laboratory to utilize funding designated for supplies and stay within County Purchasing approved practices until after this grant period was completed. Management is in the process of drafting a Grant Adjustment proposal outlining a plan, given our change in circumstances, which would best assist in reaching our ultimate goal of decreasing backlogs and providing quality and timely results.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Lean Six Sigma training was scheduled during this period to take place in the next reporting period.

Goal 2: Maintenance and calibration services were utilized during this period. Pipettes and thermometers were calibrated and service agreements were established with Applied Biosystems, Millipore, MIDEO and Rainin.

Goal 3: A Mideo Imaging System was ordered and received during this period.

Goal 4: \$300.11 in overtime was used during this period to process two high priority sexual assault investigations. The investigation took place over a weekend which the laboratory is not typically staffed. The nature of the incidents and the investigation required that the evidence be processed in a short period of time. Many of the employees are committed to casework completion during work hours and are foregoing the use of overtime. However, some employees have recently completed training which will allow them to participate in working cases and using overtime funds.

Goal 5: Mococon vials, plates, Septas, capillary array and quantification kits were purchased and received during this period.

Unexpected Outcome: Although a small amount of overtime was used during this period it is anticipated that more overtime funding will be utilized during the next reporting period.

PROGRESS REPORT 5: July 1, 2012 – November 30, 2012

Goal 1: Lean Six Sigma training was completed during this reporting period. Procedures, forms and work flows were altered to create efficiencies in the processing of DNA casework.

Goal 2: Maintenance and calibration services were utilized during this period. Pipettes were calibrated and service agreements were utilized with Qiagen.

Goal 3: No equipment was ordered or received during this reporting period.

Goal 4: \$1,926.26 in overtime was used during this period to process several cases and aide in multiple investigations. Many of the employees are committed to casework completion during work hours and are foregoing the use of overtime. Employees that completed training during this period were also able to utilize some overtime funds.

Goal 5: Weigh dishes, Kim wipes, aerosol tips, Qiagility tips, scalpels, Vivacon 500's and quantification kits were purchased and received during this reporting period.

Unexpected Outcome: Although the backlog has increased slightly it has been attributed to an increase in case assignments/submissions. An increase of over one hundred cases were analyzed as compared with the last reporting period. An increase in the number of

profiles entered into C.O.D.I.S. and an increase in hits was also realized during this reporting period.

FINAL REPORT:

This grant provided critical funds that allowed our DNA analysts to remain current in their field of expertise by attending continuing educational opportunities. The budgets of many governmental agencies have shrank or remained flat. Due to these budgetary constraints training and travel budgets have been dramatically curtailed. Without the funds provided by this grant many of our Laboratory's scientists would not have received quality training.

Funding from this grant also allowed us to purchase proficiency tests and maintenance agreements for critical DNA equipment. Without the additional funds provided by this grant our Laboratory would not have been able to purchase the necessary number of proficiency tests. This would have to be rectified by our analysts having to create internal proficiency tests which would have taken them away from conducting casework. By using funds provided by this grant to purchase proficiency tests it created efficiencies by allowing our personnel to spend more time conducting casework rather than creating internal proficiency tests for each other. The maintenance agreements purchased with funding from this grant allowed minimized the amount of downtime experienced.

With funds from this grant our Laboratory was able to purchase an additional Mideo Imaging System which created efficiencies but reducing the amount of time analysts had to wait for shared equipment. The imaging system also produced higher quality images than previous versions which lead to a better overall work product.

Overtime funds from this grant allowed our Laboratory to assist in several investigations that required a quick turnaround time due to the circumstances of the crime and the potential threat to the community by having a suspect at large.

Funds from this grant were utilized to purchase critical supplies for processing casework.

Training provided from another funding source was used to train personnel and implement some Lean Six Sigma strategies for creating a more efficient work flow. These efficiencies have led to more cases being processed which required more laboratory supplies.

Although some delays were experienced in the purchasing of equipment and service contracts these delays were attributed to the fact that laboratory personnel were required to participate in the purchasing and bidding processes in which they lacked experience. The experienced gained by the laboratory personnel involved with these steps will create efficiencies in the future. The greatest challenge during the life of this grant was the move to the Laboratory's new 45,000 square foot facility. The packing of supplies and equipment, the physical move, unpacking and set up in the new facility all created setbacks. Although these setbacks were anticipated they were slightly under estimated. The greatest set back was one that was not anticipated. This was the lost time of analysts giving tours of the new facility to law enforcement, prosecutors, defense attorneys, judges and other agencies the Laboratory regularly does business with. Additionally, with the popularity of forensic science in television and movies, public interest in the new facility was overwhelming. It was only after a full year of being in the facility that the number tours was reduced.

Despite the fact that the Laboratory experienced an increase in submissions at the end of this grant cycle funding from this grant allowed the laboratory to be more efficient and process more cases.

FY10 Recipient Name: County of Erie, New York

Award Number: 2010-DN-BX-K109

Award Amount: \$526,201

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal #1 - Hire an additional DNA analyst.

Goal #2 - Perform DNA analysis on backlogged grants using overtime.

Goal #3 - Purchase 2 new laptop computers for the new staff.

Goal #4 - Purchase DNA testing supplies.

Goal #5 - Purchase maintenance contract for 7500 RT-PCR Instrument, 310 Genetic Analyzer and two (2) 3130 Genetic Analyzers.

Goal #6 – Purchase Qualtrax quality compliance software.

Goal #7 – Purchase 11 PC's and Monitors and connectors to replace ageing computers in the DNA Section.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1 - Permission to create a new position has been submitted to the Legislature. This is still pending. We are schedule to hire the second DNA analyst within the next two weeks. 2009 funding will be used for that position since it was originally approved on that grant and there are funds remaining for that purpose. Therefore, no work was done by analysts under this grant as of this date.

Goal #2 - We have not begun to utilize this grant for overtime related expenses. We are still using 2009 funding for that. It is projected that we will continue to have 2009 money available for at least another 6-9 months.

Goal #3 - Purchase orders are being pursued so that the computers will be ready when the DNA analysts are hired.

Goal #4 - We have not yet begun to analyze cases or train new staff using funding from this grant. Therefore, no supplies have been ordered.

Goal #5 - Permission to add this to the grant was recently received. The Purchase Order has been sent for approval to the County Purchasing Department.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal #1 - The Legislature has approved the grant resolution. The second position has not been filled as of this date.

Goal #2 - We have not begun to utilize this grant for overtime related expenses. We are still using 2009 funding for that. It is projected that we will continue to have 2009 money available for at least another 2 months.

Goal #3 - The two new laptop computers have been purchased and are currently being programmed. They will be assigned for use when the programming is completed.

Goal #4 - We have not yet begun to analyze cases or train new staff using funding from this grant. Therefore, no supplies have been ordered.

Goal #5 – Please note that the original goal has been updated to include additional instrumentation for which maintenance contracts have approved. Purchase order has been approved and executed. Annual maintenance checks have been performed on the instruments.

Goal Completed.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal #1 - County administration has approved filling the second position. We are currently canvassing applicants. The DNA Analyst that was previously hired using grant funding is still in training. She is currently completing the first phase of the training program and is on track to receive approval to independently perform Biology screening and DNA swabbing in January. She will then continue with the DNA phase of the training program.

Goal #2 - We began processing backlogged DNA cases using overtime funding from this grant at the end of September, 2011. We have processed 45 cases to date. The number of backlogged cases has significantly decreased during this period.

Goal #3 -The laptops have been programmed and are being used for grant related purposes.

Goal #4 -We have begun to purchase DNA supplies to process backlogged cases and train new analysts.

Goal #5 -Purchase order has been approved and executed. Annual maintenance checks have been performed on the instruments. Goal Completed.

Goal #6 – Please note that this is a new goal that was added to the grant budget. The software was purchased at the end of November. In-house IT staff configured a virtual server to host the software. Qualtrax installed the software in December and we are awaiting training which is scheduled for the second week of January 2012.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal #1 - The second DNA Analyst was hired at the end of February. Both DNA Analysts hired on this grant have completed their initial phase of training and are processing cases in Forensic Biology screening. They have analyzed a total of 100 additional Biology cases. These cases were not counted in the DNA backlog portion of the grant reported in Goal #2 below. Their analysis of these additional cases allowed more time for the fully trained DNA Analysts to spend performing grant related DNA analysis. They continue to progress through the DNA portion of their training.

Goal #2 - We began processing backlogged DNA cases using overtime funding from this grant at the end of September, 2011. We have processed 273 backlogged DNA cases to date. The number of backlogged cases has significantly decreased during this period.

Goal #3 -Goal Completed

Goal #4 -We have begun to purchase DNA supplies to process backlogged cases and train new analysts.

Goal #5 –Goal Completed.

Goal #6 – The software was purchased at the end of November, 2011. In-house IT staff configured a virtual server to host the software. Qualtrax installed the software in December and training was received. The new software is being utilized to assist in managing the Quality Program of the laboratory. Goal Completed.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal #1 - The second DNA Analyst was hired at the end of February. Both DNA Analysts hired on this grant have completed their initial phase of training and are processing cases in Forensic Biology screening. They have analyzed a total of 128 additional Biology cases during this reporting period. These cases were not counted in the DNA backlog portion of the grant reported in Goal #2 below. Their analysis of these additional cases allowed more time for the

fully trained DNA Analysts to spend performing grant related DNA analysis. They continue to progress through the DNA portion of their training. Goal Completed.

Goal #2 - We began processing backlogged DNA cases using overtime funding from this grant at the end of September, 2011. We have processed 121 backlogged DNA cases during this reporting period. The number of backlogged cases has decreased during this period. Goal Completed.

Goal #3 -Goal Completed

Goal #4 -We completed purchasing the DNA supplies to process backlogged cases and train new analysts. Goal Completed.

Goal #5 -Goal Completed.

Goal #6 – The software was purchased at the end of November, 2011. In-house IT staff configured a virtual server to host the software. Qualtrax installed the software in December, 2011 and training was received. The new software is being utilized to assist in managing the Quality Program of the laboratory. Goal Completed.

Goal #7 – Please note that this is a new goal that was added to the grant budget. The computers, monitors and connectors were received at the end of December. They are being configured by County IT staff and will be put into service once this is completed. Goal Completed.

FINAL REPORT:

Goal #1 - The second DNA Analyst was hired at the end of February, 2012. Both DNA Analysts hired on this grant have completed their initial phase of training and are processing cases in Forensic Biology Screening. They have analyzed a total of 228 additional Biology cases throughout the entire grant period. The types of cases analyzed include: sexual assault (rape kits) and the collection of DNA swabs from firearms and controlled substance packaging. These cases were not counted in the DNA backlog portion of the grant reported in Goal #2 below since they are capacity related tasks and do not qualify as backlogged cases. The analysis of these additional cases allowed more time for the fully trained DNA Analysts to spend performing grant related backlogged DNA analysis. This extra time contributed to the accomplishment of Goal #2. The new DNA Analysts continue to progress through the DNA portion of their training. The reported metric for this category for the January-June 2012 Reporting Period was inadvertently omitted in an early progress report. Goal Completed.

Goal #2 - We began processing backlogged DNA cases using overtime funding from this grant at the end of September, 2011. We have processed 394 backlogged DNA cases to date. This significantly exceeded the calculated required number of 282 backlogged DNA cases. The overall number of backlogged DNA cases has dramatically decreased during this grant period. The backlog decreased from a high of 1,149 cases to the current low of 823 cases. This is the lowest DNA backlog since 2007. Almost all DNA cases prior to 2011 have been analyzed. The few remaining older cases are currently assigned to DNA Analysts for analysis and should be completed in the next reporting period. The laboratory is at the point where the capacity to analyze DNA cases has increased to where (on the average) more DNA cases are completed each month than are newly received. This has been accomplished through the effective use of overtime combined with the contribution of the 2 DNA Analysts funded through this grant program. Additionally, the number of new DNA submissions has been at a high but no longer increasing steady rate, allowing us to more effectively address the backlogged situation. Goal Completed.

Goal #3 –The laptop computers have been put into service and are being used to complete the computer portion of grant related tasks. This includes the entering of case information into the LIMS and the writing of DNA case reports. Additionally, grant reporting related duties such as maintaining DNA statistics and the writing of DNA grant reports are performed using this equipment. Goal Completed

Goal #4 -We completed purchasing the DNA supplies to process backlogged cases and train new analysts. The purchase of DNA supplies was critical to enable the lab to fund these increased costs for the cases that were analyzed using overtime from this grant and in the training of the DNA Analysts hired under this grant program. Goal Completed.

Goal #5 – The instrument maintenance contract has been issued and the instruments have received their annual verification and have been maintained in good running condition during the course of the grant program. We are required by the DAB to annually certify genetic analyzers used for DNA typing. Additionally, keeping these instruments in proper running condition has allowed the DNA Analysts to maintain their analytical schedule and to process the backlogged DNA casework in a timely fashion. Goal Completed.

Goal #6 – The quality compliance software was purchased at the end of November, 2011. In-house IT staff configured a virtual server to host the software at no cost to the Laboratory. Qualtrax installed the software in December, 2011 and training was received. The new software is being utilized to assist in managing the Quality Program of the DNA laboratory. The software allows the Quality Manager and supervisory staff to more efficiently and more thoroughly maintain DNA quality related documents. This results in an overall improvement of the DNA Quality Program and also allows them more time for other DNA grant related tasks such as backlogged case work analysis. Additionally, this is a critical accreditation requirement. Goal Completed.

Goal #7 – Please note that this is a new goal that was added to the grant budget. The computers, monitors and connectors were received at the end of the grant funding period in December, 2012. They are being configured by County IT staff and will be put into service once this is completed. The computers will run new software that will be used in the genetic typing portion of the DNA analysis procedure. The new software will improve the quality portion of the DNA analysis and also allow networking of the system to improve the storage and maintenance of the DNA instrument data and DNA profiles. Goal Completed.

FY10 Recipient Name: New York State Police, New York

Award Number: 2010-DN-BX-K096

Award Amount: \$982,414

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The NYSP has stated three goals for the lab's Bioscience Section in its application for the 2010 Forensic DNA Backlog Reduction Grant:

Goal 1: Reduction in the average number of days between submission of DNA evidence to the lab and the delivery of test results to the submitting agency

Goal 2: Increased throughput as measured by the number of DNA samples analyzed per analyst on a monthly basis

Goal 3: Reduction of forensic DNA case backlog.

These goals will be achieved by completing the following objectives:

Objective 1: Purchase equipment – a 3500xL (cost split between 2 awards), thermal cyclers, EX1 XL robots, and some computers and servers and a centrifuge. Note: Objective modified with Budget GAN approved in December 2010. Objective modified again with Budget GAN approved in November 2012.

Objective 2: Outsource casework.

Objective 3: Use overtime and supplies for existing analysts to analyze cases. NOTE: supplies purchased on grant funds are for validation only.

Objective 4: Use funds to send analysts to continuing education opportunities. NOTE: A budget GAN approved January 2012 allows for the use of funds for a TrueAllele long – distance training course. A budget GAN approved December 2012 removed these funds for TrueAllele along with other modifications to this objective.

Objective 5: Hire a LIMS consultant.

Objective 6: Purchase ~~40~~ 20 copies of GeneMapper IDX. Note: Objective modified to increase the number of GMIDX copies to purchase with Budget GAN approved in December 2010.

Objective 7: ~~Get a QC module for our LIMS integrated.~~ Note: Objective added with Budget GAN approved in December 2010. Note: This item removed from this grant with budget GAN approved January 2012.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

There has been no financial activity on this grant during this reporting period.

There has been, however, a budget modification approved to allow the splitting of the cost of an Applied Biosystems 3500xL between this grant and our 2008 DNA Backlog Reduction Grant. We have already received the instrument and will be invoiced for this purchase in early 2011. We are beginning the solicitation process for validation services to validate our new 3500xL, along with GeneMapper ID-X software, and Identifiler Plus amplification kit. Software licenses could then be purchased after the validation studies are completed.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - During this six month reporting period, the turnaround times for a DNA case dropped from 134 days at the start of the award in October 2010 to 126 days at the end of June 2011. Turnaround values are calculated using a LIMS query for cases with DNA assignments. The query does not include the time needed for cases requiring a combination of both DNA and front-end serology screening. The value reported includes the turnaround for all case types (homicide, burglary, etc.) and also includes cases that are deemed low priority and cases awaiting analysis by other laboratory sections prior to DNA analysis. As a further note, a LIMS query performed to measure the turnaround time for *serology* assignments only during this same time period was 57 days.

Goal 2 - The number of DNA items processed per analyst on a monthly basis has decreased as compared to the initial value of 50.4. However, as noted in the above metrics, the current value of 44.2 including 44 qualified DNA analysts could be adjusted to 60.5 if one does not include the 12 DNA analysts that do not routinely perform case analysis (supervisors and CODIS staff). The 60.5 value reflects the average number of DNA items/month processed by the 32 qualified analysts whose job function is primarily to perform casework analysis.

Goal 3 - The number of backlogged cases (serology + DNA) has decreased from a starting value of 1,935 at the beginning of this award to 1,725 at the end of this reporting period. Due to a triage approach for case assignment, the drop of nearly 11% is most noticeable in the decrease in

the number of the most personal, violent crimes such as homicides, sexual assaults, assaults, and robberies. These more violent crimes are also the type of crimes that require processing of more specimens and more comprehensive data interpretations factors not routinely considered when reviewing backlog numbers.

There has been limited financial activity on this grant.

Objective 1: Funded the partial purchase of the 3500xL (split with the 2008 DNA Backlog Reduction Grant which completed close-out this reporting period), and purchased a centrifuge that was approved in a Scope GAN completed in January 2011.

Objective 2: Have not outsourced yet.

Objective 3: Have expended funds for overtime for analysts. There are several Casework metrics that can be reported relating to cases worked utilizing overtime funds provided by this award and resultant CODIS entries and hits. Our laboratory does not have personnel completely funded by this grant, but it does include funding for our existing staff to work overtime. Cases are worked by both Senior Laboratory Technicians and Forensic Scientists (examiners) with each performing certain aspects of the analysis. Overtime is approved for work performed on any aspect of the analysis, and thus, many cases are included on this metric since each case may have had a small component of it worked during overtime. Information for this metric is gathered from an Access database which includes case number, when the overtime occurred, which case had a CODIS entry and which case had a CODIS hit. For this 2010 grant, overtime was worked on 392 cases during the time period of January - June 2011. Of these, there were 178 profiles entered into CODIS and 99 CODIS (28 Forensic and 71 Offender hits).

Objective 4: No funds expended.

Objective 5: No progress noted.

Objective 6: Purchased GMID-X for the 3500xL.

Objective 7: No progress noted.

We have worked together with our Finance department to formalize a solicitation document for a Request for Proposals to contract with an outside vendor to perform the validation of the 3500xL, GeneMapper ID-X, and Identifiler Plus. After the Finance department approves it, the document then requires approval from the Office of the State Comptroller before it is advertised to be competitively bid.

Additional Note:

This grant is scheduled to expire in March 2012. It is anticipated that an extension will be requested to continue work on the various projects begun thus far.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1- Turnaround times have actually increased somewhat from the start of this award at 134 days in October 2010 to 158 days at the close of 2011. The overall number of approved DNA reports remains about the same for the first half of 2011 as for the second half of 2011 (1,141 vs. 1,125, respectively). Case turnaround is calculated by our LIMS from the time of submission to the time that the report is issued and the assignment is closed. Turnaround time, therefore, includes low priority cases and large cases with many items analyzed and sometimes very complex mixture interpretations required for data analyses. Some low priority cases will require work to be completed by other lab sections before DNA analysis. Hence, low priority cases that require latents work, for example, will sometimes add months onto the overall turnaround times.

Goal 2- Increased throughput is calculated as number of DNA items/analyst/month.

Unfortunately, this metric has decreased during this reporting period from 50.4 to 36.2. Several

factors may have contributed to this decline. There has been quite a bit of training during this time frame, especially during the month of September. In the month of November, we implemented a comprehensive new protocol on mixture interpretation that also required a number of training sessions along with “competency” test on the new interpretation methods. All of this required each DNA analyst and supervisor to spend a number of days familiarizing themselves with the new protocol, attending the training sessions, working practice data sets with emphasis on interpretation, and taking the competency test(s). Each case now assigned to the analyst requires much more comprehensive documentation of thought processes for interpretation, taking longer to complete a case and to perform a technical review on each case. Goal 3- The number of backlogged cases has decreased somewhat since the beginning of this grant award (1707 on December 30, 2011 vs. 1,935 on September 30, 2010). The most remarkable difference is the drop in the case backlog from the most violent, personal crimes. By the end of 2011, the backlog dropped by 44% for homicides, 30% for sexual assaults, 20% for assaults, and 48% for robberies. Unfortunately, the other crime categories did not show the same decrease and remained about the same, with burglaries remaining the biggest contributor to our case backlog.

Objective 1- We have purchased two Qiagen EZ-1 robots during this reporting period and validation studies have begun to bring these on-line in 2012. We have recently validated other liquid handling robots (Janus 4-tip and 8-tip) that are now on-line processing *reference* specimens in our automation section. These have replaced our outdated Biomek 2000’s that are no longer supported by the manufacturer. The validation study on the EZ-1’s will allow the automation section to also process *evidence* samples. Both the Janus and EZ-1 required our vendor, Porter Lee, to produce software to accompany these two new instruments so that they are, and will be, fully integrated in our casework process. The Porter Lee customization costs will be included on our 2009 grant.

New servers have been purchased during this reporting period to update/replace older, slower servers for our LIMS and DLIMS (databank LIMS).

Objective 2- We have just started to encumber funds from this grant for outsourcing beginning in December of 2011 by outsourcing 18 cases to our vendor laboratory. No funds have yet been drawn down for this purpose.

Objective 3- No validation supplies have yet been purchased on this grant. However, we have been utilizing funds designated for overtime and fringe benefits. Several casework metrics have been reported above in regards to Objective 3. Our laboratory does not have analyst positions that are fully funded by this award, but existing staff are allowed overtime payment to perform casework analysis, data analysis, report writing and technical review on forensic casework. Generally, analysts and senior laboratory technicians will work overtime on any or all parts of a case. Each case that is worked is recorded in an Access database so that queries may be made as to which analysts worked on which case, when the overtime was worked, which cases developed CODIS entries and/or CODIS hits, and which grant funded the overtime. As reported above, a total of 360 cases had some portion worked on overtime during this reporting period. There were 175 profiles entered into CODIS and 71 CODIS hits (19 Forensic and 52 Offender) from these 360 cases.

Objective 4 – No funds were used during this reporting period for continuing education. However, a budget GAN approved in January 2012 allows for the use of funds for a long – distance style training for four analysts to complete the Basic Training and Operator courses for

the TrueAllele software. The vendor, Cybergenetics, will be conducting this course during early 2012.

Objective 5 – No funds have been expended yet for the LIMS consultant. It is anticipated that funds will be needed on/about March of 2012.

Objective 6 – No funds have been expended yet for the GeneMapper ID-X software/licenses. We are anticipating the award of a contract to a vendor for validation of the Applied Biosystems 3500xL, GeneMapper ID-X software, and Identifiler Plus amplification kit very soon. When this is complete, the winning vendor will be able to come on-site to perform the validation and begin the training process for the instrumentation, software, and amplification kit. As of mid-January 2012, the winning bidder has been selected but the Office of the State Controller will need up to 90 days to finalize a contract. It is anticipated that the validation work could commence sometime in the spring of 2012.

Objective 7 – There were no funds expended for the purchase of a QC module for LIMS. In fact, this item has been removed from this grant budget (budget GAN approved January 2012) due to a reallocation of funds needed to purchase other items.

Additional Note –It is anticipated that the NYSP will request a project period extension since this grant's expiration date is March 2012. Due to monies available on other grants, unanticipated delays in various projects, loss of staff, etc., the various projects and purchases planned for this award have not yet been completed. A Project Period GAN will be submitted in the upcoming weeks.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1- Turnaround times (TAT) have increased from the start of this award from 134 days in October 2010 to 209 days on June 30, 2012. The overall number of approved DNA reports remains about the same at the end of the first half of 2012 as for the second half of 2011 (1,125 vs. 1,124, respectively). We suspect that the spike in turnaround times is due to an initiative we've taken to tackle some *very* old and low priority cases. Since our LIMS calculates turnaround times from the time of submission to the time that the report is issued / assignment is closed, these very old cases are now included in that calculation causing this noticeable elevation of TAT's.

Goal 2- Increased throughput is calculated as number of DNA items/analyst/month. This metric has improved slightly from the most recent reporting period from 36.2 at the end of 2011 to 38.2 at the end of June 2012. As discussed above, a new and comprehensive mixture interpretation protocol was instituted in our laboratory in the last half of 2011. As time progressed, we feel that analysts are now a bit more comfortable with the new protocol and hence, are able to write reports a bit quicker than in 2011. We feel that this has helped with throughput.

In addition, the number of DNA items processed has increased about 5% from the last reporting period from 10,210 DNA items in July – December 2011 to 10,767 DNA items in January – June 2012. These numbers do not reflect the number of *serology* items processed by some of these same analysts which is calculated separately in our LIMS (423 serology items from July – December 2011 to 489 serology items January – June 2012).

As of this date, none of the 21 open positions in the Bioscience Section have been filled or are expected to be filled. However, since the New York State legislature has expanded the Databank Law by becoming the first state in the nation to pass an "All Crimes Bill" which requires DNA samples be collected from anyone convicted of a felony or penal law misdemeanor, the Section (casework + databank) was approved to hire 5 Senior Laboratory Technicians, 6 Forensic

Scientists, 1 Supervisor, 1 CODIS Custodian and 3 Keyboard Specialists (clerical positions) as a direct results of this expansion. Interviews are commencing this month. Initially these interviews, background checks, and training will be a drawdown for a number of months but the new hires will ultimately assist both the casework and databank sections in the Bioscience Unit with the anticipated increase in workload.

Goal 3- The number of backlogged cases (serology + DNA) has decreased by about 27% from the beginning of the grant award (1,935 cases at the start of the award to 1,406 cases at the end of June 2012). We continue to prioritize work on our cases with the most violent, personal crimes being worked in-house and many property crime cases being outsourced. Burglaries remain the most numerous case category in our backlog. To date, we have outsourced 108 property crime cases on this award.

Objective 1- We have purchased some computer equipment for the section during this reporting period. Databank has received 18 new computer towers and, so far, four of the six new Notebooks have been imaged and delivered from our IT department. We have rec'd our new CODIS monitor and docking stations for the Notebooks. We anticipate the need to order additional computers / laptops / peripherals for additional staff hired because of the databanks' expansion with the "All Crimes Bill".

Objective 2- We have outsourced a total of 88 property crime cases on this award during this reporting period and another 20 during the current month. We have had 27 CODIS entries and 13 CODIS hits (5 Forensic and 8 Convicted Offender) during this reporting period as a result of these outsourced cases.

Objective 3- Some validation supplies have been purchased thus far on this grant that include Qiagen EZ-1 Investigator kits and associated buffers.

We have been utilizing funds designated for overtime and fringe benefits. Several casework metrics have been reported above in regards to Objective 3. Our laboratory does not have analyst positions that are fully funded by this award, but existing staff are allowed overtime payment to perform casework analysis, data analysis, report writing and technical review on forensic casework. Generally, analysts and senior laboratory technicians will work overtime on any or all parts of a case. Each case that is worked is recorded in an Access database so that queries may be made as to which analysts worked on which case, when the overtime was worked, which cases developed CODIS entries and/or CODIS hits, and which grant funded the overtime. A total of 413 cases had some portion worked on overtime during this reporting period. As a result of this overtime, there were 112 profiles entered into CODIS and 48 CODIS hits (13 Forensic and 35 Convicted Offender hits). The metric above reports both the CODIS entries/hits from overtime as well as from outsourcing efforts.

Objective 4 – Due to a state budget deficit, there are now many restrictions in place that severely limits our ability to send analysts to outside training opportunities. In addition, there are now more restrictions and approval required by NIJ and OJP in regards to conferences and training courses. That said, we did obtain approval in the January 2012 budget GAN to provide funding for a long-distance learning course for several analysts to participate in TrueAllele software training. This training is scheduled to take place over the period of several months. Our trainees are currently starting the first of six lessons for the "Operator 1" certification. Once that is complete and the trainees have completed a certification exam for Operator 1, they will begin another 6 lessons to become certified as "Operator 2".

Objective 5 – We have just begun to expend funds from this grant for our LIMS consultant.

Objective 6 – No funds have been expended yet for the GeneMapper ID-X software/licenses.

After completing a competitive bid process to award a Validation Services contract, the contract that includes validation of the 3500xL, GeneMapper ID-X and Identifiler Plus was awarded this spring. The vendor is currently on-site performing the beginning phase of this project. Funds for GeneMapper ID-X cannot realistically be expended until after most of the validation is completed.

Objective 7 – There were no funds expended for the purchase of a QC module for LIMS. In fact, this item has been removed from this grant budget (budget GAN approved January 2012) due to a reallocation of funds needed to purchase other items.

Additional Note – A Project Period GAN was approved in February 2012 extending the project period until March 31, 2013.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1- Turnaround time (TAT)

The turnaround time at the end of this reporting period is close to what it was at the start of the award (140 days vs. 134 days on September, 2010). There was an upward trend in the TAT during the course of this award but we may have gotten a handle on it. It still appears that the longest case TAT is associated with low priority cases or cases that require work by other laboratory sections. Our section continues to triage cases so that higher priority cases (the most violent, personal crimes, crimes against children or elderly, cases with pending trial or Grand Jury dates) will get processed more quickly than a routine property crime with “touch” evidence. Our lab continually strives to decrease TAT and increase productivity while maintaining quality. Our validation projects, changes in case management, and occasional reassessment of priorities are all approaches that we can utilize to help us achieve our goals.

Goal 2 – Throughput

Throughput, as measured by number of DNA items/analyst, has increased to 44.8 by December 2012 from 38.2 at the end of June 2012. In spite of losing approximately 6 staff members over the course of 2012, it appears that our analysts were able to become more efficient in the work process. In addition, more DNA reports were approved in 2012 than in 2010 when this grant was awarded (2,201 DNA reports in 2012 vs. 2,021 DNA reports in 2010).

Goal 3 - Backlog

The overall backlog of cases (serology + DNA) is down at the end of this reporting period as compared to the start of the award (1,512 at the end of 2012 vs. 1,902 at the end of September, 2010). The backlog is dependent upon many factors, not all of which we in the laboratory can control. We are not able to control the number or type of cases that are submitted. As like many other labs, we have seen tremendous increases in the numbers of “touch” DNA property crimes accumulate in our backlog. Outsourcing has helped considerably in the effort to keep the backlog down since it is the property crime case with “touch” DNA that is likely to be outsourced from our lab.

Objective 1- More equipment was purchased during this reporting period including a new CODIS workstation, new monitors for the databank staff, webcams and headsets for the TrueAllele long-distance learning course, an Ethernet switch, computers for new databank staff and some tube racks/inserts for the automation room. Additional funds have been encumbered for the purchase of a color networked printer for analysts to print electropherograms (since the existing printer is in poor working condition and breaks down often), a closet network upgrade for the new GeneMapper ID-X (GMID-X) analysis room workstations and for lab label printers, a large monitor for one of the TrueAllele trainees, and renovation costs for the new GMID-X

room and new supervisor office. It should be noted that renovation work will be completed by vendors that are on NY state contract.

Objective 2 – We have outsourced a total of 193 cases on this grant, with 87 of these outsourced during this reporting period. These 87 cases, which were primarily property crimes with “touch” evidence, resulted in 9 CODIS entries and 3 CODIS hits (2 Forensic hits; 1 Convicted Offender hit). Any funds remaining in the outsourcing budget item will be expended during early 2013.

Objective 3 – As specified above, any funds utilized for supplies are for validation needs.

We have been utilizing funds designated for overtime and fringe benefits during this reporting period. Several casework metrics have been reported above in regards to Objective 3. Our laboratory does not have analyst positions that are fully funded by this award, but existing staff are allowed to work overtime to perform casework analysis, data analysis, report writing and technical review on forensic casework. Generally, analysts and senior laboratory technicians will work overtime on any or all parts of a case. Each case that is worked is recorded in an Access database so that queries may be made as to which analysts worked on which case, when the overtime was worked, which cases developed CODIS entries and/or CODIS hits, and which grant funded the overtime. A total of 292 cases had some portion worked on overtime funded by this grant during this reporting period. As a result of this overtime, there were 137 profiles entered into CODIS and 64 CODIS hits (14 Forensic and 50 Convicted Offender hits). The metric reported above lists both the CODIS entries/hits from both the overtime as well as from the outsourcing efforts.

Objective 4 – Funds that were previously budgeted for the TrueAllele long-distance learning course were reallocated with the GAN approved in December 2012. Similarly, some of the funds that were originally designated for travel to the Promega Symposium and the regional NEAFS meeting were reallocated. Since the NEAFS regional meeting was local in November 2012, only registration costs were needed for those staff that wished to attend. The December 2012 GAN includes these estimated registration costs. NOTE: As it turns out, our Professional Employee Union will cover the costs involved for the majority of attendees. The next budget GAN planned will include the costs of only (4) attendees that are not covered by the union reimbursement for continuing education / professional training.

Objective 5 – Our LIMS consultant is a valuable asset to our section. We have continued to expend funds for this consultant during this reporting period and expect to consume the remaining amount budgeted during early 2013.

Objective 6 – After completing a RFP and competitive bid process for a vendor to come on-site to validate the 3500xL, GMID-X, and the Identifiler Plus amplification kit, a contract was awarded to Sorenson Forensics and Sorenson commenced the project in June of 2012. As of January 2013, Sorenson is completing the final requirements of this project. We anticipate that funds will be expended for this validation project in the first quarter of 2013. Our staff have received preliminary training from Sorenson and we plan on implementing use of this new instrument, software, and kit in phases. To accomplish this, we are renovating a conference room in our existing facility to serve as a GMID-X analysis room with ten workstations.

Renovations cost estimates have been included in the budget GAN approved December 2012. GMID-X licenses needed for the first phase of implementation will be ordered in January 2013. The next budget GAN will include reallocations to accommodate costs of the licenses required for this first phase of implementation.

In addition to renovating a conference room, we are also renovating some lab storage area into a lab evidence screening area and office space for an analyst that was recently promoted to

supervisor. This new supervisor will serve as the GMID-X administrator as well as trainer for newly promoted Forensic Scientists and new Senior Laboratory Technicians, oversee validations, and assist with oversight of the operation of the post-amp room. Renovation costs for the supervisor office were included in the GAN approved December 2012.

Objective 7 – The QC module for LIMS has been removed from the grant.

FINAL REPORT / PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Goal 1- Turnaround time (TAT)

We are pleased to report that the overall TAT has decreased over the life of this award from 134 days in October of 2010 to 120.9 days by April 1, 2013. Many things have happened to influence this metric during this time period, causing a roller coaster effect including: 1) waiting for other lab sections (such as latent fingerprints) that need to process the evidence prior to serology/DNA testing, 2) re-assessing the assignment of cases for DNA such as pulling DNA analysts from other casework teams to assist with the homicide or sex assault case teams, 3) promotions such as a new supervisor to assist in training new Senior Laboratory Technicians (SLT) and newly promoted Forensic Scientists which means that the supervisor and new trainees are not actively doing casework, and, 4) tackling the oldest property/miscellaneous cases that have sat in the backlog for quite a while by either completing the work or administratively closing them.

There are several aspects concerning our administrative policy that will continue to influence the performance metrics. Our laboratory provides an extensive analysis on many cases submitted for DNA analysis. There are some cases (especially homicides) that may average about 30 items per case, with an occasional case having up to 50-70 items. As a result, some cases will require a 20-30 page DNA report. Some sexual assault cases, too, can require analysis of many items, including differential extractions with autosomal STR and Y-STR analysis. Another aspect of our lab policy is that we will accept any and all “touch” property crimes that are submitted to us. These cases, in general, do not provide much probative information due to the nature of the evidence type and thus, do not result in many CODIS hits or CODIS entries. We have recently been able to restrict analysis of some of the oldest “touch” cases to three evidence items (as determined by the submitting agency) and any associated elimination reference controls. Both of these aspects of lab policy will influence TAT and backlog.

Goal 2 – Throughput

Throughput, as measured by the number of DNA items/analyst, began as 50.4 (as determined from July – September 2010), spiked at 61.9 in December of 2010, declined to 36.2 in December 2011 and has rose steadily to the current value of 45.3. As mentioned in previous Progress Reports, a comprehensive new DNA Mixture protocol was instituted in our lab in November of 2011 which required much more documentation to be included on the electropherograms and on additional worksheets. The protocol also introduced new wording for conclusions. We are pleased to report that sample throughput has increased steadily from that time point as analysts became more comfortable with the new protocol and more accustomed to what is now required for documentation. The new protocol was introduced after a training period to introduce analysts to the new requirements and the protocol was developed to be in accordance with the SWGDAM guidelines.

Goal 3 – Backlog

We are pleased to report that the overall case backlog has decreased from 1,935 in October 2010 to 1,527 in March 2013. The lowest value of 1,406 was achieved in June of 2012 which

coincides with the time period just prior to the institution of the new DNA Mixture protocol described under “Throughput”. We believe that even though the new protocol appears to have an initial detrimental effect on the Backlog and Throughput metrics, the overall work product is now better, is in compliance with SWGDAM guidelines, and keeps us current with the technology used in other forensic laboratories.

Objective 1- The last remaining equipment purchases were made in this last quarter with the exception of the large color printer planned for the GMID-X analysis room. We could not purchase the printer due to the fact that no state contract was in place for the purchase of multifunctional devices (printer/copier/fax) for at least 4 months during the time we needed to purchase. One small color printer that was ordered prior to the contract expiration was paid for during this reporting period. This one will now be repurposed for use in the new GMIDx analysis room.

The monitors for the TrueAllele operators and the minitowers for the databank were purchased during this last reporting period. Also included in the purchases during the last 3 months were items for the GMIDx analysis room: cabling, ten laptops for the ten workstations, computer equipment required for the GMIDx administrator, and the network closet switch upgrade necessary for these extra workstations.

Overall, the equipment category remains as one of the most well-funded budget categories of our grants. Without federal funding, it would be extremely difficult or impossible to make any of our equipment purchases. The hefty purchase of a 3500xL was split between this and our 2008 grant. As described previously, we are in the process of converting over from the use of the 3130 genetic analyzer to the 3500xL. Although we are still preparing our training modules to implement their use (as well as for corresponding software GMID-X and the Identifiler Plus amplification kit) and developing our approach to actually implementing Phase 1 of these newly validated technologies, we needed to have this instrument and software *in place* for the validation to be completed. We anticipate training of the first analysts to use this equipment/software during the coming months.

Two Qiagen EZ-1’s were purchased on this grant which brings the total to four EZ-1s in the casework lab. Once the final Technical Leader sign-off on the validation studies is complete, our Senior Laboratory Technicians (SLT) will be trained in this automated extraction technology. Currently, two of our automation SLT’s are training for EZ-1 operation. We plan on training two SLT’s at a time so that once fully trained, they could work as a team in a rotational schedule. It is anticipated that this technology will greatly enhance efficiency by reducing the number of manual DNA extractions required.

The purchase of much computer equipment was funded by this grant, both for individual staff member use and for the section (casework, databank and CODIS) use. Some equipment was purchased for newly hired staff and for newly promoted staff. In fact, every databank analyst and SLT received a new computer and monitor to replace outdated equipment. New 24 inch LCD monitors were purchased for our “core” group of TrueAllele analysts who may eventually serve as “certified operators” for this type of mixture interpretation software. Larger monitors prove very convenient and useful for the way in which the TrueAllele analysis is structured. In fact, this grant funded the webcam headsets and Ethernet switch which helps out tremendously when the long-distance training with Cybergenetics takes place. Two servers were purchased on this grant which were needed for the databank DLIMS and for the new GMID-X analysis work. Ten new laptops were purchased specifically for the first ten analysts to be trained in the use of

GMID-X which will be deployed with Windows 7.0. Equipment was also purchased for our new supervisor who will function as the GMID-X administrator.

Objective 2 – We have outsourced a total of 193 cases on this award, with the vast majority of the cases being property crimes including “touch” evidence submissions. Since we prioritize cases and reserve the most violent serious crimes (homicides, assaults, sexual assaults) to be processed in-house, we will outsource most of the property crimes. Property crimes continue to be the largest case category received at the lab. We do not have any policy that will reject property crimes containing only “touch” items, so cases such as these are considered low priority and are likely to be outsourced to our vendor. No cases were actually outsourced during this three month reporting period but there were 3 CODIS entries from previously outsourced cases during January – March 2013 that included 2 Forensic hits and 1 Offender hit.

Even though the cases outsourced under this award are considered “low priority”, the 193 total cases outsourced during the entire award period resulted in a total of 36 CODIS entries with 19 CODIS hits including 9 Forensic and 10 Offender hits. Without federal funding for outsourcing, these cases most likely would still remain in our backlog.

Objective 3 – No validation supplies were purchased during this reporting period.

Funding for overtime and fringe continues to be a major portion of the grant budget. Although minimal funds were expended for overtime during the final three months of this grant, we have cumulatively, over the life of this grant, funded casework activities, at least in part, for a total of 1,458 cases. As stated previously, analysts and senior laboratory technicians may work on any part of the case analysis (screening, DNA extraction, quantitation, amplification, instrument operation, data interpretation and report writing), with any portion of the work being conducted on overtime. Overall, work on these cases resulted in a total of 609 CODIS entries, 346 CODIS hits including 93 Forensic and 253 Offender hits.

As requested, we have recently have restructured our Access database which records data in regard to overtime and CODIS entries/hits that result from cases worked on overtime. As a result, we can now provide data for the total number of cases worked (each case counted once throughout the entire award period) vs. the number of cases that had *additional* overtime worked in reporting periods after the *initial* time period in which each case was worked and first recorded. As it turns out, there are a substantial number of cases that have additional items that are submitted for testing over the course of many months or have an additional type of DNA testing (such as Y-STRs). The following chart depicts this information:

	Oct – Dec 2010	Jan – June 2011	July – Dec 2011	Jan – June 2012	July – Dec 2012	Jan – March 2013
# cases worked OT (reported above)	1	392	360	413	292	0
# cases that had add'l OT	0	245	178	205	122	0

Objective 4 – Some funds that were originally budgeted for attendance at professional meetings or for the Applied Biosystems HID training were reallocated with the Budget GAN of January 2013 to help pay for the purchase of GMIDx licenses required for Phase 1 implementation. The only funding used during this last reporting period for training was to pay registration/workshop costs for four individuals to attend the regional NEAFS meeting.

Objective 5 – We are extremely grateful for the funding provided by this award for our LIMS consultant. We have continued to draw down funds for this position from this grant through January of this reporting period. Future funding will be continued from our 2011 award.

Objective 6 – The budget category marked “Other” is the third major funding category of this award, with most of the category’s funds designated for the purchase of costly GMID-X licenses. For all intents and purposes, Sorenson Forensics has completed the validation services for GMIDx, the 3500xL, and Identifiler Plus and we have just approved payment for their services (see our 2011 DNA Backlog Reduction Grant). The 3500xL will provide greater capacity (24 capillaries) than the current 3130xL we have in place now, in addition to other features such as a long-life laser and the utilization of RFID technology for quality control of reagents. We have decided to implement the use of this new instrument, analysis software and kit in incremental phases. To do so, we are currently in the process of renovating an existing conference room in our facility to become a GMIDx analysis room, complete with ten workstations to accommodate both peer review analysts and technical review analysts. As mentioned previously, the Budget GAN in January 2013 provided funds for the purchase of GMIDx licenses required for Phase 1. Renovations and equipment costs were encumbered during this reporting period and will be expended within the close-out period of this grant.

In addition to the GMIDx analysis room, renovations are also occurring in a lab storage area to create an evidence screening area + supervisor office. The new supervisor, in addition to training newly hired and promoted staff, will function as the GMIDx administrator as well as assist with the operation of the post-amp facility and assist with the oversight of validation studies. Renovation costs were included in the December 2012 Budget GAN. Funds were encumbered for this screening room/office renovation during the first quarter of 2013 and will be expended during the award closeout period.

Funds for purchases of additional GMIDx licenses will be provided by our existing DNA Backlog Reduction grant(s).

Objective 7 – The QC module for LIMS has been removed from this grant.

FY10 Recipient Name: Onondaga County Health Department, New York

Award Number: 2010-DN-BX-K047

Award Amount: \$152,935

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To reduce the number of backlogged DNA cases by providing overtime for staff.

Goal 2 - To upgrade the CODIS hardware and associated software to comply with new requirements for database participation.

Goal 3 - To undertake a Lean 6-Sigma evaluation and implement an ongoing program to improve efficiency.

Goal 4 - To provide continuing education for scientists within the section.

Goal 5 - To provide vendor support contracts for all analytical instrumentation.

Goal 6 (new as of July 1, 2012 – addresses budget modification) – To purchase needed equipment to enhance the throughput of section.

Goal 7 (new as of July 1, 2012 – addresses budget modification) – To upgrade the lab’s Genemapper ID-X software.

Goal 8 (new as of July 1, 2012 – addresses budget modification) – To purchase a magnetic white board system for use in the implementation of the lean six sigma project.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 - During the reporting period no overtime funds were used for backlog cases.

Goal 2 - During the reporting period no purchases were made with funds from this grant.

Goal 3 - During the reporting period preliminary planning of the RFP process took place.

Goal 4 - During the reporting period no continuing education was acquired using funds from this grant.

Goal 5 - A support agreement was purchased for instrumentation through Applied Biosystems using funds from this grant. This agreement covers our real-time PCR systems and genetic analyzers.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - During the reporting period 159 hours of grant funded overtime were used for backlog cases.

Goal 2 - During the reporting period no purchases were made with funds from this grant.

Goal 3 - During the reporting period backup materials were collected for the upcoming RFP release scheduled for September 2011.

Goal 4 - During the reporting period no continuing education was acquired using funds from this grant.

Goal 5 - A support agreement was purchased for instrumentation through NicheVision using funds from this grant. The agreement covers our sperm finder system.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 - During the reporting period 141 hours of grant funded overtime were used for backlog cases. By the end of the reporting period all of the overtime funding has been expended. A cumulative total of 353 hours of overtime has been funded by this grant for analyzing backlogged cases.

Goal 2 - During the reporting period the laboratory's CODIS server, software, workstation, and UPS were replaced as required by CODIS.

Goal 3 - During the reporting period the Request for Proposal seeking a Lean Six Sigma Consultant was released. As of this writing, Sorenson Forensics was awarded the project contract.

Goal 4 - During the reporting period two scientists attended conferences using funds from this grant. The green Mountain DNA Conference and the 22nd International Symposium on Human Identification provided the scientists with the most up-to-date information on the state of the field.

Goal 5 – During the reporting period the previously purchased maintenance agreements for Applied Biosystems and Niche Vision equipment were still in force, providing coverage for our core instrumentation.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1 – Completed goal during the last reporting period.

Goal 2 – Completed goal during the last reporting period.

Goal 3 – During the reporting period the Lean Six Sigma consultant began the project onsite with a full week’s training/assessment. The analysts and management participated fully in the activities. The entire project will be completed by September 30, 2012.

Goal 4 – During the reporting period no continuing education was acquired using funds from this grant.

Goal 5 - During the reporting period the previously purchased maintenance agreements for Applied Biosystems and Niche Vision equipment were still in force, providing coverage for our core instrumentation.

*Corrected statistics – Under final grant review we found that the following performance measure should be increased from 0 to 1 for the period of January 1, 2012 – June 30, 2012.

During this reporting period, how many cases were analyzed and delivered to the requesting agency using funding provided for overtime and/or supplies to work cases, and outsourcing under this award? For final reports, report the cumulative total.	1
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PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1 – Goal completed.

Goal 2 – Goal completed.

Goal 3 – During the reporting period the Lean Six Sigma consultant completed the project onsite. The analysts and management participated fully in the activities. The preliminary result of the project is a significant 20% increase in throughput. Unfortunately, the number of submissions for the reporting period spiked up by nearly 20% over the prior two reporting periods as well. Due to this spike in submissions, the total number of backlogged cases is not reflective of the increased productivity. Goal completed. The unintended consequence of this significant increase in efficiency was that the section quickly used up the budgeted supply funding from grant and local sources, putting a severe strain on the entire laboratory’s funding stream.

Goal 4 – Completed goal during a previous reporting period.

Goal 5 - During the reporting period the previously purchased maintenance agreements for Applied Biosystems and Niche Vision equipment were still in force, providing coverage for our core instrumentation. Goal completed.

Goal 6 - (new as of July 1, 2012 – addresses budget modification) – During the reporting period the DNA section purchased two microcentrifuges, a Mini-CrimeScope, alternative light source (ALS), and two thermocyclers. The microcentrifuges are replacing existing units that are nearing the end of their useful life. This purchase will maintain the throughput within the section. These centrifuges are routinely used in the DNA extraction process. The ALS is used for screening items of clothing and bedding for body fluids. This additional unit will remove an existing bottleneck in the screening process and ultimately improve case processing time. The thermocyclers are replacing existing units that are nearing the end of their useful life. These systems are used routinely for the amplification process for both Identifiler Plus and Y-filer. Goal completed.

Goal 7 - (new as of July 1, 2012 – addresses budget modification) – During the reporting period, the section purchased an upgrade for their Genemapper ID-X Software. This upgrade was necessary to allow the laboratory to run Genemapper ID-X analysis software on a Windows 7 platform. Goal completed.

Goal 8 - (new as of July 1, 2012 – addresses budget modification) – During the reporting period, the section purchased and implemented a magnetic white board system to capture all of the data necessary to control the processes. A significant part of the Lean Six process is ensuring that the appropriate data are tracked on a daily basis and that at any given time, all analysts can track their cases through the system. Goal completed.

FINAL REPORT:

During the life of the grant the section utilized 353 hours to complete analysis of 20 cases. We had originally projected that 25 cases would be analyzed with 373 hours, however, the average number of hours per case used was based on a case mix with a high percentage of property crimes. Typically sexual assault and homicide cases consist of more items and are more complex than property crime type cases, therefore taking longer to complete. In years past we had used the overtime to analyze a mix of complex and property crime cases allowing us to complete more cases and to generate more probative profiles. On this grant we focused mostly on serious crimes including nine homicides, seven sexual assaults, one assault, and only three burglary cases. It should be pointed out that while only 20 cases were completed, the majority of these cases were analyzed almost exclusively on overtime and accounted for analysis and interpretation of 166 DNA samples.

Grant funding was used to purchase a new CODIS server, software, workstation, and UPS, allowing the lab to upgrade to the latest CODIS version and Server 2008RT operating system. Additionally, replacement centrifuges and two thermocyclers were purchased. This replacement equipment allowed the laboratory to ensure that DNA analytical processes continue without malfunction or breakdown of outdated equipment. Also, an additional alternate light source was purchased to remove a bottleneck from the body fluids screening process.

Grant funding was used to send one analyst to the Green Mountain DNA Conference and one analyst to the International Symposium on Human Identification. Attendance at these meetings provided the scientists with information relating to current trends in forensic DNA analysis, allowed them to increase their knowledge regarding mixture interpretations through workshops, and fulfilled their continuing education requirements to meet accreditation standards.

With the help of a grant funded Laboratory Lean Six Sigma consultant, the DNA section was able to review their processes, identify areas for improvement, and establish new, more efficient standardized work practices. In the 4 months prior to the implementation of this project each analyst was able to complete, on average, 8.3 cases per month. The four month period after the implementation of the LSS process (the last four months of the grant award), each analyst has been able to complete an average of 9.9 cases per month. This represents a 19% increase in productivity, which is equivalent to adding another analyst to the section. We feel that the Laboratory Lean Six Sigma process was a great success and look forward to further implementation throughout the laboratory as time and funds allow.

FY10 Recipient Name: Nassau County, New York

Award Number: 2010-DN-BX-K049

Award Amount: \$225,515

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective: To reduce the overall turnaround time for the handling, screening, and analysis of forensic DNA samples, increase laboratory throughput, and prevent future DNA forensic casework backlogs

Task 1: Prevent loss of laboratory personnel who are currently employed from NYS grant funding.

Task 2: Increase laboratory analysis capacity and throughput by validation and implementation of the Qiagen EZ1 Advanced XL robotic extraction system for property crime evidence types.

Task 3: To purchase and install biological safety cabinets to support a sterile environment for 96-well plate format. This task will function with the purchase of the QIAGEN QIAcube from existing grant sources and will be used to prepare post-amplification products for electrophoresis and detection in an automated fashion

Task 4: To secure funds for kit reagents and consumables to support current laboratory casework analysis and the analysis of DNA backlog related evidence.

Performance Measure:

The performance will be measured by calculating the reduction in the average number of days between a case submission and the delivery of the test result to the requesting agency. The case turn-around time will be recorded at the beginning of the grant period and reported following the casework implementation of the technology described above. The performance will also be measured by the reduction in rejected property crime related case requests.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Task 1: A total of \$848.72 was encumbered within this reporting period to support the 1.1% reduction in NYS DNA Capacity Enhancement. This supported the salaries of 3 DNA examiners.

Task 2: No funds encumbered during this period.

Task 3: No funds encumbered during this period.

Task 4: No funds encumbered during this period.

Performance Measure:

The performance will be measured by calculating the reduction in the average number of days between a case submission and the delivery of the test result to the requesting agency. The case turn-around time will be recorded at the beginning of the grant period and reported following the casework implementation of the technology described above. The performance will also be measured by the reduction in rejected property crime related case requests.

No funds were encumbered specific to performance measure calculation.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Task 1: No funds encumbered during this period.

Task 2: No funds encumbered during this period.

Task 3: No funds encumbered during this period.

Task 4: No funds encumbered during this period.

With a remaining balance on the 2009 DNA Backlog Reduction Program there has been limited activity in this reporting period. No significant progress has been made on the projects goals, however, \$470 has been encumbered to technically review 7 DNA cases in the current period. A significant amount of funding will be utilized during the next period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Task 1: The expected 1.1% reduction in NYS Personnel and Fringe funds were not removed from the laboratory's operating budget. The laboratory is currently working on a GAN to reallocate the \$4,095 requested to support three laboratory analysts specified in the 2010-DN-BX-K049 budget.

Task 2: The Qiagen EZ1 purchase has been initiated. The expense and implementation impact will be reported when the purchase is finalized in the next reporting period. The EZ1 advanced will supplement the current validation of the Qiagen QIAcube and QIAagility robots currently in the process of validation. The intended use of the EZ1 will be to automate the extraction, amp and CE process in conjunction with the Qiagen QIAcube and QIAagility liquid handlers. The laboratory is aiming to be 100% automated with the differential extraction procedure and extraction of low level DNA samples by the close of 2012.

Task 3: Following the execution of the 2010-DN-BX-K049 funds, Nassau County Government made the decision to civilianize and modernize the County's forensic program. The funds requested for the purchase and install of biological safety cabinets in the Post-Amplification section will no longer be required since a new facility is expected to be completed by early 2014. The laboratory is currently working on a GAN to reallocate the \$25,039 requested to purchase and install the two biological safety cabinets specified in the 2010-DN-BX-K049 budget.

Task 4: Task four has been the most crucial in the prevention of DNA backlogs within Nassau County. In this grant period, \$17,103 was encumbered to purchase consumables, kits and reagents from Applera (ABI) to support the analysis and CODIS entry of property crime related evidence. In addition, \$217 was encumbered to repair the laboratory's crime scope. The funds utilized during this reporting period were responsible for the analysis of 211 property crime cases (~64% of total cases accepted), 54 profiles entered and 41 hits recorded. Furthermore, the current program funded 97.5 OT hours which amounted to 120 technical reviews, 52 administrative reviews and 18 hours of validation reviews which was responsible for the closeout of ABI Identifiler and Yfiler validation projects. As a result the laboratory experienced a 14 day decrease in turnaround, from 115 days to 101 days and was able to deliver 216 reports within the reporting period.

Performance Measure: The performance will be measured by calculating the reduction in the average number of days between a case submission and the delivery of the test result to the requesting agency. The case turn-around time will be recorded at the beginning of the grant period and reported following the casework implementation of the technology described above. The performance will also be measured by the reduction in rejected property crime related case requests.

July 01, 2011 - December 31, 2011 Reporting Period: As stated above the funds utilized during this reporting period were responsible for the analysis of 211 property crime cases (~64% of total cases accepted), 54 profiles entered and 41 hits recorded. In addition 120 technical reviews, 52 administrative reviews and 18 hours of validation reviews that resulted in the closeout of ABI

Identifiler and Yfiler validation projects. As a result the laboratory experienced a 14 day decrease in turnaround, from 115 days to 101 days and was able to deliver 216 reports within the reporting period. Our goal for the next reporting period is to strive for a 90 day turn-around. Continued improvements in automation and the use of OT funds will continue to be our driving force.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Task 1: MODIFIED: Utilization of funds to support OT for case reviews and validations of new techniques to reduce the current laboratory case backlog and turn-around.

GAN ID 322372 was approved which allowed the reallocation of funds (specified in Progress Report 3 Task 1 above) to support overtime and fringe for the tech/admin review of backlogged DNA reports and review and implementation of validations. In the last reporting period funds were used to support 79.25 hrs. of overtime to perform 50 technical reviews and 182 administrative reviews. In addition funds were used to support 16.5 hrs. of validation review which resulted in the implementation of Identifiler and Yfiler in forensic casework. This was a major accomplishment for the laboratory. (\$9,361.85 encumbered)

Task 2: Funds were utilized to purchase the Qiagen EZ1 Advanced XL robotic extraction system for property crime evidence types. In addition the Qiagility liquid handler was purchased to prepare amplified samples for capillary electrophoresis. Validations are in the process of being written up for review. It is expected that procedures for LIMS implementation and casework implementation will be completed within the next reporting period. (\$116,491.25 encumbered)

Task 3: CLOSED: GAN ID 322372 associated with the transfer of these funds has been approved as stated in Task 1.

Task 4: A total of \$70,782.97 has been expended for kits, consumables and instrument service contracts to support to the increased demands of property crime related analysis. Venders include Life Technologies (formerly Applera) and Qiagen.

Performance Measure:

The funds utilized during this reporting period were responsible for the acceptance of 105 property crime cases (33% of the total cases accepted). From these property crime cases, the laboratory uploaded 57 CODIS profiles and 23 of those resulted in hits. In addition to casework metrics, final reviews of the ABI Identifiler and Yfiler validation projects and casework implementation were completed. The laboratory did experience an 11-day increase in turnaround time, however, now that the Identifiler and Yfiler multiplex amplification systems are being used in casework we are predicting an increase in laboratory productivity and our goal is to strive for a 90-day turnaround time.

FINAL REPORT: PROGRESS REPORT 5: July 1, 2012 – September 30, 2012

Task 1: No funds were utilized to support OT for case reviews and validations aimed to reduce the current laboratory case backlog and turn-around within this reporting period.

Task 2: No funds were utilized to purchase equipment within this reporting period.

Task 3: CLOSED: GAN ID 322372 associated with the transfer of these funds has been approved as stated in the last reporting period.

Task 4: The \$650.00 in remaining funds were used towards the purchase of an ABI Identifiler amplification kit. Additional funding sources were utilized to purchase sufficient kits for casework analysis.

Performance Measure: (FINAL)

The funds utilized during this grant award were directly related to the completion of 467 property crime cases and 77 CODIS hits associated from 133 profiles entered. This equates to a 57% CODIS hit rate in property crime cases which is significant to Nassau County since the majority of cases analyzed in the Department of Forensic Genetics are associated with property crimes that historically result in a higher hit ratio as compared to violent crimes. Over-all, turnaround was only decreased by one day which is not significant, however, a decrease in turnaround is expected with the implementation of the Qiagen EZ1 Advanced XL robotic extraction system purchased through this program. Validation of this system is complete, however, the system will not be implemented in casework until LIMS customization is complete (~March 2013). Utilization of the Qiagen EZ1 Advanced XL robotic system in conjunction with the Qiagen QIAcube is expected to reduce examiner “bench-time” and allow more allocation of time towards case management and report writing which will have a favorable impact on turnaround. The outcomes directly related the 2010 DNA Backlog Reduction program show the significance of this funding source and future NIJ backlog solicitations. Without these funds this laboratory would not be successful in minimizing evidence backlogs associated to property crimes as it has been.

FY10 Recipient Name: City of New York, Office of Chief Medical Examiner

Award Number: 2010-DN-BX-K058

Award Amount: \$1,000,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goals and objectives of this grant were the prevention of an increase in the case backlog and turnaround time caused by headcount loss.

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases.

Goal 4: Use funds to hire two entry level criminalists to process cases.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0.

Optional Metrics– The cases listed in this section were worked by staff whose salaries are funded under this grant.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: No overtime expenses have been charged to this grant yet.

Goal 2: No travel expenses have been charged to this grant yet.

Goal 3: No supply expenses have been charged to this grant yet.

Goal 4: Two Criminalist Level I employees were hired through this funding and are in training.

Goal 5: No funds expended.

Optional Metrics– The cases listed in this section were worked by staff whose salaries are funded under this grant.

Explanatory Comments on Reported Metrics:

On October 1st, 2010, a total of 2,837 assignments were considered to be “backlogged.” Of these assignments, only 423 were received within this reporting period and not started before the end of this reporting period. 2,414 of these were considered to be backlogged assignments because they were not completed within the targeted 30 day turn around time.

On December 31st, 2010, a total of 2,619 assignments were considered to be backlogged.” Of these assignments, only 318 were received within this reporting period and not started before the end of this reporting period. 2,301 of these are considered to be backlogged assignments because they were not completed within the targeted 30 day turn around time.

The decrease in samples analyzed per analyst per months is a normal fluctuation probably caused by the number of holidays in November and December.

Profiles entered into CODIS, CODIS hits attributable to analyses funded under this award, and assignments analyzed through this award funding are all based on work done by the two new Criminalist Level I’s hired based on this funding. These Criminalists are still in training and therefore have not performed any work on cases that would be CODIS eligible and attributable to this grant. Therefore, no cases are reported.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: \$60,272.05 in overtime charges began accruing on this award as of January 1st, 2011. The metrics attributable to work performed on weekend cases funded through this award are listed above.

Goal 2: \$11,530.05 in travel funding was expensed during this reporting period. It was utilized to send several staff members to the 2011 AAFS Meeting in Chicago, IL.

Goal 3: The Applied Biosystems supply expenses charged to this grant in March 2011 were vouchered back and ultimately paid for by City funds. This was done since no productivity tracking for supplies had been in place and it was considered important to have this funding in place for fiscal year 12.

Goal 4: One Criminalist Level I completed training.

Goal 5: \$25,000 was spent for Beckman Coulter shaking Peltier elements that were installed on our Biomek NX robots. Validation of these robots for post amplification sample set-up is in progress.

Performance Metric Discussion

On October 1st, 2010, a total of 2,837 assignments were considered to be “backlogged.” Of these assignments, only 423 were received within this reporting period and not started before the end of this reporting period. 2,414 of these were considered to be backlogged assignments because they were not completed within the targeted 30 day turnaround time.

On June 30th, 2011, a total of 2,254 assignments were considered to be backlogged.” Of these assignments, only 235 were received within this reporting period and not started before the end of this reporting period. 2,019 of these are considered to be backlogged assignments because they were not completed within the targeted 30 day turnaround time.

Optional Metric Narrative:

The two Criminalists hired through this grant are entry level employees and are not going to sign any DNA reports. Based on guidance we received from NIJ earlier this year, these employees must be considered technicians and any casework contribution should not count as a case worked. Therefore the metrics in the section “cases worked by staff whose salaries are funded under this grant” will be marked N/A. Just for completeness, here is the status for these two employees: Only one Criminalist has finished training thus far and she contributed to 12 cases, which in turn resulted in three profiles uploaded to CODIS and one hit. Please note that we will keep tracking the number of cases for these criminalists, but based on our instructions from earlier this year, the CODIS metrics are not applicable and do not need to be reported. Therefore we will no longer track database activities for this category of funding.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests.

All weekends worked between July 1st and December 31st, 2011 were funded by this award. Metrics on cases worked, database entries and CODIS hits are reported above.

Explanatory Comments on the Reported Metrics:

On December 31st, 2011, a total of 2,259 assignments were considered to be backlogged.” Of these assignments, only 270 were received within this reporting period and not started before the end of this reporting period. 1,989 of these are considered to be backlogged assignments because they were not completed within the targeted 30 day turnaround time.

As before the DN10 award was used to fund overtime for the Department’s weekend shift. Compared to the prior reporting period, the number of associated number of CODIS entries and CODIS hits decreased for this report. This is caused by the fact that the samples for some of the weekend cases were also processed using the DN09 grant funded lot of Taq Polymerase tracked for the DN09 progress report. None of the affected cases, CODIS entries and hits were counted twice; anything processed with the grant funded Taq Polymerase is only reported in our DN09 report.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

\$34,758.91 in allocated travel funding has been expensed to date on continuing education related scientific meetings and conference expenditures for qualified DNA analysts. Meetings attended using this funding thus far included:

- 2011 Bode Technology Annual Advanced DNA Technical Workshop, West Coast Meeting in San Diego, California
- 2011 Bode Technology Annual Advanced DNA Technical Workshop, East Coast Meeting in Amelia Island, Florida
- 2011 Promega International Symposium on Human Identification in National Harbor, Maryland
- 2011 AAFS Annual Meeting in Chicago, Illinois

There is approximately \$13,770.16 in pending expenditures against the remaining travel budget for this grant for the AAFS Annual Meeting in Atlanta, Georgia currently scheduled for February 2012. These expenditures are expected to hit the grant in the next reporting period.

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases. No supply expenses have been charged to this grant yet. An order will be placed and lot number tracking will be implemented in March 2012.

Goal 4: Use funds to hire two entry level criminalists to process cases. The two Criminalists hired through this grant have completed their training but are considered to be entry level employees and are not signing any DNA reports. Based on guidance we received from NIJ earlier this year, these employees must be considered technicians and any casework contribution should not count as a “case worked by staff whose salaries were funded under this grant”. Therefore the metrics in this section will be marked N/A. Please note that this is a change from our previous progress reports for the FY09 backlog award. Just for completeness, here is the status for these two employees: collectively, they examined evidence or performed DNA extractions in 125 cases for this reporting period. Please note that we will keep counting the number of cases for these criminalists, but will not report on any resulting database activities.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0. The CODIS server and the corresponding software has been delivered and installed. The department of forensic biology switched operations to CODIS 7.0 in December 2011.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The goals and objectives of this grant were the prevention of an increase in the case backlog and turnaround time caused by headcount loss.

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests. Weekend overtime funding was completely expended as of December 31st, 2011.

Explanatory Comments on the Reported Metrics:

On June 30th, 2012, a total of 2,320 assignments were considered to be backlogged.” Of these assignments, only 312 were received within this reporting period and not started before the end of this reporting period. 2,008 of these are considered to be backlogged assignments because they were not completed within the targeted 30 day turnaround time.

The increase in samples analyzed per analyst per months is most likely caused by recent loss of head count due to attrition. Funding was recently reallocated to the OCME by New York City's Office of Management and Budget in order to allow forensic biology to hire some additional staff to help replace lost positions. In May 2012, we hired eight entry-level criminalist level Is who are now in training.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

\$46,448.69 in allocated travel funding has been expensed in total to date on continuing education related scientific meetings and conference expenditures for qualified DNA analysts. Meetings attended using this funding thus far included:

- 2011 Bode Technology Annual Advanced DNA Technical Workshop, West Coast Meeting in San Diego, California
- 2011 Bode Technology Annual Advanced DNA Technical Workshop, East Coast Meeting in Amelia Island, Florida
- 2011 Promega International Symposium on Human Identification in National Harbor, Maryland
- 2011 AAFS Annual Meeting in Chicago, Illinois
- 2012 AAFS Annual Meeting in Atlanta, GA

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases.

No supply expenses have been charged to this grant. A GAN will be filed to reallocate all of the supply funding to equipment so the department can purchase two new 3500xL model genetic sequencers for ABI in order to replace the aging discontinued model 3130xLs currently in use in the laboratory.

Goal 4: Use funds to hire two entry level criminalists to process cases.

The two Criminalists hired through this grant were moved to city funded lines that became available as part of the March 2012 city council funding restoration. The salary funding will be used to support the equipment purchase described above.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0. The CODIS server and the corresponding software was delivered and installed during the last reporting period. The department of forensic biology switched operations to CODIS 7.0 in December 2011. The candidate match resolution and DNA hit notifications are a major part of the forensic biology workload. In 2011, the department uploaded a total of 2,859 evidence profiles (grant funded and tax levy funded) and received 1,850 confirmed hits. To supplement the current CODIS operations funding was used to purchase 13 additional desktop computers to serve as CODIS terminals. Funding was also used to purchase four additional printers for this purpose.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

The goals and objectives of this grant were the prevention of an increase in the case backlog and turnaround time caused by headcount loss.

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests.

Weekend overtime funding was completely expended as of December 31st, 2011.

Explanatory Comments on the Reported Metrics:

On December 31st, 2012, a total of 3,859 assignments were considered to be “backlogged.” Of these assignments, only 273 were received within this reporting period and not started before the end of this reporting period. 3,586 of these are considered to be backlogged assignments because they were not completed within the targeted 30 day turnaround time.

The significant increase in backlog during this reporting period has occurred as a result of several factors directly relating to casework. The most significant being a temporary loss of efficiency after the implementation of the LIMS system on July 17th, 2012. All scientific and administrative staff needed time to become familiar with the new process. In addition to the learning curve, there was also downtime caused by system related server outages and software bugs, and a processing delay caused by cumbersome program features. With many of the case accessioning, exam and testing steps taking longer, important capacity for case management and case completion was lost. OCME is working with the LIMS vendor to fix technical problems and implement efficiency enhancing changes as soon as possible.

The increase in samples analyzed per analyst per months is most likely caused by recent loss of head count due to attrition. Funding was recently reallocated to the OCME by New York City’s Office of Management and Budget in order to allow forensic biology to hire some additional staff to help replace lost positions. 8 entry-level criminalists were hired during the last reporting period and began training. They are expected to complete training very soon and should be entering the regular workload rotation in February.

A total of 16 additional entry-level criminalists were also hired and began their training in November, December and January 2013. These criminalists are still undergoing training and are not expected to participate in regular casework by the end of April 2013.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

Travel funding was expended during the last reporting period- January – June 30th, 2012.

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases. GAN filed-Money reallocated in this section to purchase one new 3500xL model Genetic Sequencer.

No supply expenses have been charged to this grant. The GAN for the reallocation of funding from the supply budget to the equipment line was filed. The order with ABI for the new 3500xL model genetic sequencer was placed and we are currently awaiting delivery of the instrument.

Goal 4: Use funds to hire two entry level criminalists to process cases.

During the last reporting period, the two Criminalists hired through this grant were moved to city funded lines that became available as part of the March 2012 city council funding restoration. The salary fund was used to support the equipment purchase described above.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0. The CODIS server and the corresponding software was delivered and installed during the July-December 2011 reporting period. The department of forensic biology switched operations to CODIS 7.0 in December 2011. The candidate match resolution and DNA hit notifications are a major part of the forensic biology workload. In 2012, the department uploaded a total of 2,324 evidence profiles (grant funded and tax levy funded) and received 1,203 confirmed hits. To supplement the current CODIS operations, funding was used to purchase 13 additional desktop computers to serve as CODIS terminals. Funding was also used to purchase four additional printers for this purpose.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

The goals and objectives of this grant were the prevention of an increase in the case backlog and turnaround time caused by headcount loss.

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests.

Weekend overtime funding was completely expensed as of December 31st, 2011.

Explanatory Comments on the Reported Metrics:

On June 30, 2013, a total of 3,072 assignments were considered to be “backlogged.” Of these assignments, only 216 were received and not started within 30 days of their receipt. 2,856 of these assignments are considered to be ‘backlogged’ because they were not completed within the targeted 30 day turnaround time.

During this reporting period, a massive push for backlog case completion was implemented in order to close out cases older than one year. This push attributed to the decrease in the current case backlog by 21%. Although there is still quite a backlog to manage as a result of the LIMS implementation, learning curve, system malfunctions and staff attrition, it seems that the department will finally be able to slowly chip away at it.

Forensic Biology staff has finally adjusted to the LIMS system as suggested by the slowly decreasing case turnaround time. However, the OCME continues to have LIMS log-on limitations due to the availability of licenses. It is anticipated that grant funding will become available in the near future to help combat this issue. The OCME LIMS super users and IT staff

will continue to work with the LIMS vendor to fix any technical problems that may arise as well as to implement efficiency enhancing changes to the system continuously.

During the last reporting period, it was noted that there was an increase in samples analyzed per analyst per month. This was most likely caused by recent loss of head count due to attrition. The eight new criminalists that were hired and began training during the last reporting period to help replace some of these lost positions have completed training and are now part of the regular casework rotation. These additional criminalists have attributed to the decrease in the samples analyzed per analyst per month metric seen in this reporting period's report.

A total of 16 additional entry-level criminalists were also hired and began their training in November 2012, December 2012, January, 2013 and June 2013. The majority of these criminalists have completed training but some are not expected to participate in regular casework until the end of November 2013.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

Travel funding was fully expensed during the reporting period- January – June 30th, 2012.

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases. GAN filed-Money reallocated in this section to purchase of one new 3500xL model Genetic Sequencer. \$75,691 in supply expenses (Identifilier Kits) were purchased using this grant during this reporting period. The kits will be placed in the laboratories for use on casework starting on July 1st. Tracking procedures are in place for the supplies using the LIMS.

\$170,334 was spent to purchase one new ABI 3500xL model genetic sequencer which was delivered by the close of this reporting period. The instrument will begin validation procedures within the next reporting period so that it can be deployed for casework use.

Goal 4: Use funds to hire two entry level criminalists to process cases. There are no criminalist salaries currently funded through this grant.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0. The CODIS server and the corresponding software was delivered and installed during the July-December 2011 reporting period. The department of forensic biology switched operations to CODIS 7.0 in December 2011. The candidate match resolution and DNA hit notifications are a major part of the forensic biology workload. In 2012, the department uploaded a total of 2,324 evidence profiles (grant funded and tax levy funded) and received 1,203 confirmed hits. To supplement the current CODIS operations, \$18,502 in funding was used in 2012 to purchase 13 additional desktop computers to serve as CODIS terminals. Funding was also used to purchase four additional printers for this purpose. The computers and printers have all been installed and are functioning for CODIS related tasks only. Nothing new has been done on this goal to-date.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

The goals and objectives of this grant were the prevention of an increase in the case backlog and turnaround time caused by headcount loss.

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests.

Weekend overtime funding was completely expended as of December 31st, 2011.

Explanatory Comments on the Reported Metrics:

On September 30, 2013, a total of 2,727 assignments were considered to be “backlogged.” Of these assignments, only 201 were received and not started within 30 days of their receipt. 2,526 of these assignments are considered to be ‘backlogged’ because they were not completed within the targeted 30 day turnaround time.

During this reporting period, the new Director of Forensic Biology, who is also a black belt in Lean Six Sigma methodologies, launched a project team within the laboratory. The team’s main objective, aside from learning about Lean Six Sigma, is to apply it’s strategies to the laboratory’s current backlog and turnaround time issues. The project team set two major goals. The first is to eliminate the laboratory’s backlog or in Lean Six Sigma terms- “Work in Progress” or “WIP”- by October 24th. The second is to reduce the overall turnaround time from 152 days to 21 days within the next year.

The massive push for WIP elimination began in Mid-August, almost immediately after the project team of 35 lab members from various employment levels was assembled. To eliminate the WIP, the team initiated a lab-wide policy that specified a halt on starting all new cases unless they are sexual assaults, patterns or deemed to be a high priority. As of the close of this reporting period, the lab is well on their way to meeting their WIP elimination goal by October 24th. It is anticipated that if they do not meet this exact deadline, they should only require an additional week’s extension to meet this goal.

Once the backlog is fully eliminated, the project team is expected to tackle the turnaround time issue by restructuring every aspect of the laboratory. They plan to hold a lab-wide brainstorming session in order to harness new ideas for creating workflow processing plans that will be implemented in small pilot programs throughout the lab. This is expected to take place during the next reporting period.

The OCME continues to have LIMS log-on limitations due to the availability of licenses. Capital funding has become available to help mitigate this issue by purchasing additional licenses. The OCME LIMS super users and IT staff will continue to work with the LIMS vendor to fix any technical problems that may arise as well as to implement efficiency enhancing changes to the system continuously.

The 16 additional entry-level criminalists who were hired earlier in the year on city restoration funding have joined the casework rotation and are now contributing to the WIP elimination project.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

Travel funding was fully expensed during the reporting period- January – June 30th, 2012.

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases. GAN filed-Money reallocated in this section to purchase of one new 3500xL model Genetic Sequencer. \$75,691 in supply expenses (Identifilier Kits) was spent during the last reporting period. The kits purchased using this funding were placed in the laboratories for use on casework on July 1st and were fully consumed by the end of the first week in September. The lot numbers for the Taq Gold in each of the kits purchased on grant funding were recorded. Any case that was worked using these kits was flagged in the LIMS using the special grant code “Backlog Grant- Supplies” so that a query could pull the case numbers out of the system. The profiles derived from these cases were then given the special “\$” tag in their specimen ID. This special tag allowed those profiles to be tracked in CODIS.

The new ABI 3500xL model genetic sequencer which was delivered by the close of the last reporting period has begun validation procedures. It should be deployed for casework use after the improvement phase of Lean Six Sigma occurs and it is determined where in the lab this instrument will be best utilized.

Goal 4: Use funds to hire two entry level criminalists to process cases. There are no criminalist salaries currently funded through this grant.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0. Nothing new has been done on this goal to-date.

FINAL PROGRESS REPORT 8: Award Summary

The goals and objectives of this grant were the prevention of an increase in the case backlog and turnaround time caused by headcount loss.

Goal 1: Use weekend overtime for casework to process backlogged cases and address high priority testing requests.

Weekend overtime funding was completely expensed as of December 31st, 2011 and was utilized by weekend staff to process a total of 644 cases. Without this funding, weekend overtime would not be available and the backlog would surely continue to increase.

Summary:

At the close of this grant, a total of 2,727 assignments were considered to be “backlogged.” Of these assignments, only 201 were received and not started within 30 days of their receipt. 2,526 of these assignments are considered to be ‘backlogged’ because they were not completed within the targeted 30 day turnaround time.

Several projects were implemented during the lifespan of this grant including the development and implementation of LIMS and most recently, the introduction of the Lean Six Sigma project team. The team’s main objective is to apply it’s strategies to the laboratory’s current backlog and turnaround time issues. The project team set two major goals. The first was to eliminate the laboratory’s backlog or in Lean Six Sigma terms- “Work in Progress” or “WIP”- by October 24th. As of today, the WIP is almost completely eliminated. Steps are also being taken towards the second goal of reducing the turnaround time from 152 to 21 days by implementing pilot “pods” that will reorganize case workflow in the laboratory to make the process more efficient.

Goal 2: Use funds to send analysts to national conferences and continuing education opportunities to meet the DAB requirement of 8 hours continuing education per DNA analyst per year.

Travel funding was fully expensed by June 30th, 2012. A total of \$38,499.70 was spent to send 24 DNA analysts to the following scientific meetings/conferences:

- 2011 Bode Technology Annual Advanced DNA Technical Workshop East & West Meetings
- 2011 & 2012 American Academy of Forensic Science Annual Meetings
- 2011 Promega International Symposium on Human Identification

Due to a directive issued several years ago from the mayor’s office, no city funding is permitted to be spent on travel expenses. Therefore, without travel funding provided through this grant, the 24 DNA analysts that participated in the above referenced scientific meetings/conferences would not have been allowed to participate and thus would also not have achieved their required continuing education credits for the year.

Goal 3: Use funds to purchase supplies for casework to work on backlogged cases. GAN filed-Money reallocated in this section to purchase of one new 3500xL model Genetic Sequencer. A total of \$75,691 in supplies (Identifilier Kits) was expensed on this grant. The kits purchased using this funding were placed in the laboratories for use on casework starting July 1st and were fully consumed by the end of the first week in September. The lot numbers for the Taq Gold in each of the kits purchased on grant funding were recorded. Any case that was worked using these kits was flagged in the LIMS using the special grant code “Backlog Grant- Supplies” so that a query could pull the case numbers out of the system. The profiles derived from these cases were then given the special “\$” tag in their specimen ID. This special tag allowed those profiles to be tracked in CODIS. The funding used to purchase these additional kits allowed the laboratory to process a total of 156 cases.

\$538,795.96 was spent on equipment purchases over the duration of this grant. The new ABI 3500xL model genetic sequencer which was purchased using this funding has begun validation procedures. It should be deployed for casework use after the improvement phase of Lean Six Sigma occurs and it is determined where in the lab this instrument will be best utilized.

Goal 4: Use funds to hire two entry level criminalists to process cases.

The two entry-level Criminalists originally hired through this grant were moved to city funded lines that became available as part of the March 2012 city council funding restoration during the reporting period of January - June 2012. The remaining funding allocated to salary on this grant was reallocated to purchase the new ABI 3500xL model genetic sequencer. Without this funding, the department would not have been able to acquire the two new criminalists because the City was under a hiring freeze at the time that they were added to our headcount.

Goal 5: Use funds to purchase equipment, specifically Biomek parts for the post-amplification sample setup robot and a CODIS server with updated hardware to accommodate CODIS 7.0. The CODIS server and the corresponding software was delivered and installed during the July-December 2011 reporting period. The department of forensic biology switched operations to CODIS 7.0 in December 2011. The candidate match resolution and DNA hit notifications are a major part of the forensic biology workload. In 2012, the department uploaded a total of 2,324 evidence profiles (grant funded and tax levy funded) and received 1,203 confirmed hits. To supplement the current CODIS operations, funding was used to purchase 13 additional desktop computers to serve as CODIS terminals. Funding was also used to purchase four additional printers for this purpose.

FY10 Recipient Name: City of Columbus, Ohio

Award Number: 2010-DN-BX-K056

Award Amount: \$149,688

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following objectives were set for this award:

Objective 1: Decrease the average number of days between submission of a sample and delivery of test results to requesting officer by 5 days. At the beginning of the grant period, the average number of days between submission of a sample and delivery of test results was 79 days.

Objective 2: Increase the DNA analysis throughput for the laboratory by 5 samples per month. At the beginning of the grant period, the throughput for the laboratory was 69 samples per month per analyst.

Objective 3: Decrease the backlogged DNA casework awaiting analysis by 34%. At the beginning of the grant period there were 596 cases awaiting analysis.

In addition to the objectives stated in the grant, the following activities were planned:

1. Attendance at training courses.
2. Purchase of supplies for analysis of casework.
3. Use of overtime for analysis of casework.

4. Purchase of a computer server, software, and a printer to update the equipment necessary to utilize CODIS. (Approved in Budget Modification GAN 6-5-12)

5. Purchase of swab driers to minimize the possibility of contamination. (Approved in Budget Modification GAN 6-5-12)

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective 1: The average number of days between submission of a sample and delivery of test results to the requesting officer was 71 days. This is a decrease of 8 days from the beginning of the grant period.

Objective 2: DNA analysts analyzed an average of 68 samples each. This is decrease of 1 sample from the beginning of the grant period.

Objective 3: At the end of the last quarter, 404 cases were awaiting analysis. This is a decrease of 192 or 32% from the beginning of the grant period.

Activities:

1. Applicable training courses will be attended by new and existing Forensic Scientists in the upcoming months.

2. Supplies for analysis of casework will be purchased in the upcoming months.

~~3. Analysts worked 183.3 hours of overtime funded under this award to analyze backlogged cases. In combination with this award, supplies were purchased using award 2009-DN-BX-K121 and used to analyze 457 cases producing 286 profiles which were entered into CODIS resulting in 110 hits. All performance metrics are reported in the progress report for award 2009-DN-BX-K121.~~

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective 1: In June 2011, the average number of days between submission of a sample and delivery of test results to the requesting officer was 77 days. This is a decrease of 2 days from the beginning of the grant period.

Objective 2: In June 2011, DNA analysts analyzed an average of 67 samples each. This is decrease of 2 samples from the beginning of the grant period.

Objective 3: At the end of the last quarter, 559 cases were awaiting analysis. This is a decrease of 37 or 6% from the beginning of the grant period.

Activities:

1. Applicable training courses will be attended by new and existing Forensic Scientists in the upcoming months.

2. Supplies for analysis of casework will be purchased in the upcoming months when supply funds from award 2009-DN-BX-K121 are liquidated.

3. Analysts worked 183.3 hours of overtime funded under this award to analyze backlogged cases. In combination with overtime funded through this award, the supplies purchased using award 2009-DN-BX-K121 were used to analyze 457 cases producing 286 profiles which were entered into CODIS resulting in 110 hits. All performance metrics are reported in the progress report for award 2009-DN-BX-K121.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1: In December 2011, the average number of days between submission of a sample and delivery of test results to the requesting officer was 133 days. This is an increase of 54 from the beginning of the grant period.

Objective 2: In December 2011, DNA analysts analyzed an average of 78 samples each. This is an increase of 9 samples from the beginning of the grant period.

Objective 3: At the end of the last quarter, 583 cases were awaiting analysis. This is a decrease of 11 or 2% from the beginning of the grant period.

Activities:

1. One new analyst attended the Promega conference in October and another new analyst is scheduled to attend the American Academy of Forensic Scientists meeting and workshops in February. .
2. Supplies for analysis of casework will be purchased in the upcoming months now that supply funds from award 2009-DN-BX-K121 have been liquidated. Purchase Orders with Applied Biosystems and Qiagen are being set up to accommodate these purchases.
3. Analysts worked ~~418.5~~ 240 hours of overtime funded under this award to analyze backlogged cases. In combination with overtime funded under this award, the supplies purchased using award 2009-DN-BX-K121 were used to analyze 427 cases producing 268 profiles which were entered into CODIS resulting in 97 hits. All performance metrics are reported in the final progress report for award 2009-DN-BX-K121.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Objective 1: In June 2012, the average number of days between submission of a sample and delivery of test results to the requesting officer was 176 days. This is an increase of 97 days from the beginning of the grant period.

Objective 2: Between January and June 2012, DNA analysts analyzed an average of 73 samples each. This is an increase of 4 samples from the beginning of the grant period.

Objective 3: At the end of the last quarter, 763 cases were awaiting analysis. This is an increase of 167 cases or 28% from the beginning of the grant period.

Activities:

1. One new analyst attended the American Academy of Forensic Scientists meeting and workshops in February.
2. Supplies for analysis of casework have been purchased with funding from this grant. As noted below, the supplies were essential in the analysis of 395 Forensic Biology/DNA cases.
3. In this award period, analysts worked ~~917~~ 253.5 hours of overtime funded under this award to analyze backlogged cases. The overtime and supplies funded through this award were used to analyze 395 cases producing 253 profiles which were entered into CODIS resulting in 80 hits.
4. A grant adjustment was approved to purchase a computer server, software, and a printer to update the equipment necessary to utilize CODIS. The printer has been purchased and is awaiting installation at the laboratory. The purchase of the server and software is in progress. As well, Adobe Acrobat software was purchased so that the laboratory may more easily interact with the granting agency especially when applying for future grants.
5. A grant adjustment was approved to purchase swab driers to minimize the possibility of contamination. The purchase order for the driers has been awarded but the driers have not yet been received.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Objective 1: Between July and December 2012, the average number of days between submission of a sample and delivery of test results to the requesting officer was 143 days. This is an increase of 64 days from the beginning of the grant period.

Objective 2: Between July and December 2012, DNA analysts analyzed an average of 40 samples each. This is a decrease of 29 samples from the beginning of the grant period.

Objective 3: At the end of the last quarter, 897 cases were awaiting analysis. This is an increase of 301 cases or 50% from the beginning of the grant period.

Activities:

1. Supplies for analysis of casework have been purchased with funding from this grant and award 2011-DN-BX-K468. The supplies were purchased using a 2:1 ratio of FY10:FY11 funding, and the casework metrics from these supplies are reported in a 2:1 ratio between the FY10 and FY11 funding respectively. As noted below, the supplies were essential in the analysis of 179 Forensic Biology/DNA cases.

3. In this award period, analysts worked 29.8 hours of overtime funded under this award to analyze backlogged cases and additional overtime was worked using funding from award 2011-DN-BX-K468. The overtime and supplies funded through both grants were used to analyze 179 cases producing 105 profiles which were entered into CODIS resulting in 33 hits.

4. Hardware and software necessary to upgrade CODIS have been received and are in use.

5. Swab driers have been received and are in use for casework.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Objective 1: Between January and March 2013, the average number of days between submission of a sample and delivery of test results to the requesting officer was 169 days. This is an increase of 90 days from the beginning of the grant period.

Objective 2: Between January and March 2013, DNA analysts analyzed an average of 56 samples each. This is a decrease of 13 samples from the beginning of the grant period.

Objective 3: At the end of the last quarter, 804 cases were awaiting analysis. This is an increase of 208 cases or 35% from the beginning of the grant period.

Activities:

2. Supplies for the analysis of casework have been purchased with funding from this grant and award 2011-DN-BX-K468. The supplies were purchased using a 1:1 ratio of FY10:FY11 funding, and the casework metrics from these supplies are reported in a 1:1 ratio between the FY10 and FY11 funding respectively. The supplies were essential in the analysis of 96 Forensic Biology/DNA cases producing 25 profiles which were entered into CODIS resulting in 17 hits.

FINAL REPORT:

The following objectives were set for this award:

Objective 1: Decrease the average number of days between submission of a sample and delivery of test results to requesting officer by 5 days. At the beginning of the grant period, the average number of days between submission of a sample and delivery of test results was 79 days.

At the end of the grant period, the average number of days between submission of a sample and delivery of test results to the requesting officer was 165 days. This is an increase of 86 days from the beginning of the grant period.

Throughout the grant period, the laboratory has struggled with personnel shortages. One analyst was hired but three resigned making a net loss of 2 analysts. The laboratory currently has only 3 Forensic Biologists performing DNA casework. The lack of qualified personnel impacted the ability of the laboratory to fulfill this objective in that cases were not able to be worked in a timely manner.

Objective 2: Increase the DNA analysis throughput for the laboratory by 5 samples per month. At the beginning of the grant period, the throughput for the laboratory was 69 samples per month per analyst.

At the end of the grant period, DNA analysts analyzed an average of 60 samples each per month. This is a decrease of 9 samples from the beginning of the grant period.

The laboratory implemented a Laboratory Information Management System in 2012. While it provides many benefits including more accurate administrative reporting, it also resulted in unintentional inefficiencies. Forensic Biologists are now required to perform more administrative activities in addition to non-case related laboratory support tasks. With these extra activities, the time available to perform casework has diminished resulting in less samples analyzed per analyst per month than at the beginning of the grant period. The impact of the extra administrative duties resulted in the laboratory's inability to fulfill this objective.

Objective 3: Decrease the backlogged DNA casework awaiting analysis by 34%. At the beginning of the grant period there were 596 cases awaiting analysis.

At the end of the grant period, 804 cases were awaiting analysis. This is an increase of 208 cases or 35% from the beginning of the grant period.

As with Objective 1, the shortage of personnel qualified to perform casework analysis impacted the backlog as well as the turnaround time of casework. The unforeseen shortage resulted in an inability to meet this objective as well.

In addition to the objectives stated in the grant, the following activities were planned:

1. Attendance at training courses.

Two analysts attended training courses with funding from this grant. In October 2011, one new analyst attended the Promega conference and in February 2012, one new analyst attended the American Academy of Forensic Scientists meeting and workshops. These conferences provided the analysts with information regarding DNA analysis and research that was imperative to their training and that may be applied to this laboratory's processes in the future.

2. Purchase of supplies for analysis of casework.

Supplies for the analysis of DNA casework was purchased with funding from this grant. The supplies were essential in the analysis of 670 Forensic Biology/DNA cases producing 383 profiles which were entered into CODIS resulting in 130 hits.

3. Use of overtime for analysis of casework.

During the award period, analysts worked 706.6 hours of overtime funded under this award to analyze backlogged cases. In combination with the supplies purchased with this grant, Forensic Biologists analyzed 670 cases producing 383 DNA profiles which were entered into CODIS resulting in 130 hits.

The 670 DNA cases that were worked with supplies and overtime funding exceeded the 129 anticipated minimum number of cases to be analyzed by 541 cases.

Note: During the preparation of the Final Report, errors were identified in prior reports with regards to overtime reported. These errors are corrected with strikethroughs followed by the correct information in red font.

4. Purchase of a computer server, software, and a printer to update the equipment necessary to utilize CODIS. (Approved in Budget Modification GAN 6-5-12)

A computer server, software, and a printer were purchased to update the equipment necessary to utilize CODIS. As well, Adobe Acrobat software was purchased so that the

laboratory may more easily interact with the granting agency especially when applying for future grants.

5. Purchase of swab driers to minimize the possibility of contamination. (Approved in Budget Modification GAN 6-5-12)

Swab driers were purchased to more quickly dry the swabs used to collect biological material from evidence. The enclosed drier also protects the swabs from contamination as they dry.

Overall, this was a successful award. Although we struggled with personnel shortages and did not meet our anticipated objectives, 130 CODIS hits were made with these grant funds that would not have been identified until much later. The Columbus Police Crime Lab is grateful for the funding under this program.

FY10 Recipient Name: City of Mansfield, Ohio

Award Number: 2010-DN-BX-K046

Award Amount: \$305,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

Goal 1: To maintain low turnaround times for Mansfield cases and reduce DNA sample turnaround time for Columbus Division of Police cases.

Objective A: Fund overtime for analysts to work and review backlogged cases.

Goal 2: To increase the number of cases and samples currently being analyzed.

Objective A: Hire a DNA Analyst to process DNA casework.

Objective B: Hire a part-time DNA technician to help with casework processes and QA/QC measures.

Goal 3: To reduce the forensic casework backlog of the Columbus Division of Police.

Objective A: Purchase supplies for analysis of backlogged case.

Goal 4: To upgrade laboratory LIMS system by installing additional permanent and portable workstations in the renovated DNA section of the laboratory

Objective A: Purchase permanent LIMS workstations.

Objective B: Purchase portable workstations (laptops).

Objective C: Purchase computer "switch" for LIMS system.

Objective D: Purchase laptop/tablet PCs for the DNA Analysts.

Goal 5: To complete renovations of the DNA laboratory initiated with 2009 funding.

Objective A: Purchase and install CAT5 wiring in Biology wing.

Objective B: Purchase a PCR/Extraction Hood for the Biology wing.

Objective C: Purchase a Crime-Lite ML2 ALS System for the Biology wing.

Objective D: Purchase and upgrade exam tables in the Biology wing.

Goal 6: Purchase a genetic analyzer 3500. Note: goal added via Scope and Budget Modification GANs approved in January 2011.

Objective A: Purchase genetic analyzer

Objective B: Install genetic analyzer

Objective C: Validate genetic analyzer and initiate casework.

Objective D: Acquire extended service contract for 3500 genetic analyzer.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The Mansfield Division of Police Forensic Science Laboratory has initiated approved spending at this time.

Goal 2: The DNA analyst and technician are currently funded by the Byrne Memorial Award received by the Mansfield Division of Police Laboratory. These personnel will transfer to this award in 2011.

Goal 3: Columbus Division of Police cases continue to be worked under the 2009 grant award. Once completed; Columbus cases will be worked with funding from this award.

Goal 4: Quotes have been requested for the purchase of new LIMS workstations (Objectives A & B) and the purchase of the “switch” has been completed (Objective C).

Goal 5: The purchase and installation of CAT 5 lines throughout the rooms of the expansion has been complete (Objective A). The Biology section will be moving to the new space in the first quarter of 2011.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: The average number of days between the submission of a sample and the delivery of test results to the requesting agency was reduced to 13 days for this reporting period. Overtime funding during this period was used for analysis and review of approximately 57 Mansfield Division of Police backlogged cases. These cases resulted in the upload of 46 CODIS eligible DNA profiles and 11 CODIS hits from the 2011 casework samples. The 30 Mansfield Division of Police backlogged cases as identified are complete.

Goal 2: The DNA Technician position transferred from the Byrne Memorial Award to the 2010 DNA Backlog award for salary in April. The DNA Analyst position transferred from the Byrne Memorial Award to the 2010 DNA Backlog award for salary and benefits in June. This goal as outlined in the proposal is completed.

Goal 3: Analysis of Columbus Division of Police 2010 backlogged casework was initiated in June. Supplies for the analysis of these cases were purchased (Objective A). None of the Columbus Division of Police cases were completed during this performance period.

Goal 4: The new LIMS workstations have been installed and are operational. Objectives A and B are complete.

Goal 5: The Biology section moved into the new area in March and is processing casework. A PCR Extraction hood was purchased. Objective B is complete.

Goal 6: The ABI 3500 Genetic Analyzer has been purchase and installed. The instrument is currently in the validation process. Objectives A and B are complete.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: The average number of days between the submission of a sample and the delivery of test results to the requesting agency was reduced to 15 days for this reporting period. Overtime funding during this period was used for analysis and review of approximately 88 Mansfield Division of Police cases and 56 Columbus Division of Police backlogged cases. These cases resulted in the upload of 128 CODIS eligible DNA profiles and 22 CODIS hits from the 2011 casework samples.

Goal 3: Analysis of 56 Columbus Division of Police 2010 backlogged cases was completed during this period. Additional supplies for the analysis of Columbus Division of Police cases were purchased (Objective A).

Goal 4: The new laptops for the DNA Analysts have been purchase (Objective D). LIMS workstations have been installed and are operational. Objectives A and B are complete. This goal as outlined in the proposal is completed.

Goal 5: The Crime-Lite ML2ALS System (Objective C) and additional exam tables and table upgrade components were purchased (Objective D). This goal as outlined in the proposal is completed.

Goal 6: The ABI 3500 Genetic Analyzer has completed the validation process and is in use (Objective C) and a three year service contract has been purchased (Objective D). This goal as outlined in the proposal is completed.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: The average number of days between the submission of a sample and the delivery of test results to the requesting agency was reduced to 11 days for this reporting period.

Goal 3: Analysis of 69 Columbus Division of Police 2010 backlogged cases was completed during this period. Additional supplies for the analysis of Columbus Division of Police cases were purchased (Objective A).

FINAL REPORT: July 1, 2012 – September 30, 2012

Goal 1: The average number of days between the submission of a sample and the delivery of test results to the requesting agency was reduced to 9 days for this reporting period.

Goal 3: Analysis of 28 Columbus Division of Police 2010 backlogged cases was completed during this period.

All goals and objectives of the award have been completed.

At total of 153 Columbus Division of Police cases were completed during the award period at an average cost of \$654.00 per case.

Program income totaling \$61,048 was generated assisting another DNA laboratory in the analysis of backlogged cases. 84 additional backlogged cases were completed at an average cost of \$551.00 per case.

The program income allowed this laboratory to purchase a Driftcon system, install long term biological evidence storage, enhance DNA laboratory security and acquire additional DNA equipment and supplies.

FINAL NARRATIVE:

The overall impact of this grant funding was critical in enabling the Mansfield Division of Police Forensic Science Laboratory to continue participation in CODIS, acquiring new equipment for renovated space and providing addition benefits to outside law enforcement agencies not originally identified in the program proposal.

The hiring of the DNA Analyst provided a dedicated analyst to all casework associated with this grant award, the DNA Technician assisted the DNA Analyst and DNA staff by providing casework and technical support of the overall operation allowing the DNA staff to focus on maintain a turn-around time that was reduced to nine days for the last quarter of the award.

The funding for renovations allowed a one-thousand square foot expansion of the biology section which provided a smoother transition for the analysis of DNA cases which previously shared

space with the controlled substances section of the laboratory. This dedicated area contains permanent locations for the new PCR/Extraction hood and the Crime-Lite ML2 ALS system acquired on the grant award.

The continued participation in the gun DNA project with the Columbus Division of Police allowed our agency to assist in reducing their backlog and this project will continue after the completion of this award.

The most unexpected result of participating in this program was when we were contacted by an additional laboratory system and requested to assist in reducing their current backlog. The agency provided pre-screened samples which allowed our staff to initiate analysis without delay. This project was responsible for the majority of the program income earned during this award.

FY10 Recipient Name: Cuyahoga County Coroner's Office, Ohio

Award Number: 2010-DN-BX-K073

Award Amount: \$105,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Reduce forensic DNA sample turnaround time by 20%.

Objective A: DNA Tech's will complete training

Objective B: DNA Tech's will begin preparatory work for analysts

Objective C: Track all samples worked by analysts on a monthly basis

Goal 2: Increase throughput of the public DNA Laboratory by 33%.

Objective A: Install and validate 3500 Genetic Analyzer

Objective B: Install, validate and begin utilizing Maxwell-16 Extraction machine.

Objective C: Complete required training of Lab personnel for the 3500

Objective D: Begin utilizing the 3500 by January of 2012

Objective E: Track all cases and samples worked by analysts on a monthly basis

Goal 3: Reduce the DNA forensic casework backlog by 12%.

Objective A: Lab supervisor to complete monthly cumulative tracking of cases worked utilizing Tracking Spreadsheet

Objective B: Supervisor to schedule monthly meetings with lab and grant personnel

Objective C: Procure identified equipment and supplies

Note – Objectives for Goals have been identified and reported on in the progress section.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The prior year, NIJ FY09 Forensic DNA Backlog Reduction Grant Award is still in progress and has not been closed out. Therefore, we have not spent any of the funds for this current NIJ FY09 Forensic DNA Backlog Reduction Grant Award #2009-DN-BX-K149.

The request to obtain a contractor to hire two DNA techs is in the beginning process. There will be a Request for Proposal to seek competitive bidders for the services required. In the next quarter, the bid will be advertised competitively for potential contractors

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

A typo occurred in the first reporting period report. Instead of 150 backlogged cases, we actually had 120. Numbers reflected in this report are accurate.

Goal 1: There has been no change in DNA sample turnaround time during this reporting period. DNA technicians have yet to be hired although significant progress has been made to do so. We are anticipating that DNA Technicians will be hired by September 1, 2011.

Goal 2: There has been no change in throughput time during this reporting period. Again, the DNA technicians have yet to be hired as well as the fact that there has been no change in automated equipment. A 3500 Genetic analyzer is being purchased through other grant funds (2009 Urban Area Security Initiative) and we anticipate the installation during the third quarter of this year (2011).

Goal 3: There has been no change in backlog during this reporting period. Due to the difficulties in hiring DNA Technicians casework backlog has actually increased. A total of 110 new DNA requests have been added to the DNA backlog and a total of 85 DNA reports were released during this reporting period.

Despite no progress toward stated goals there has been progress in the hiring of two DNA Technicians. As originally intended, the Request for Proposal (RFP) for the Technicians was not necessary and we have completed and posted a Request for Qualifications (RFQ) for the Technicians. The RFQ has effectively reduced the hire time process by six months or more. The job posting has gone up and we anticipate hiring technicians by September 1, 2011.

In addition to the hiring of technicians, the forensic lab is in the process of purchasing a 3500 Genetic analyzer with leveraged funds from a Homeland Security Grant (2009 Urban Area Security Initiative).

We fully anticipate that performance metrics will improve by the end of the year as a result of DNA technicians beginning employment and the installation of new equipment.

During this reporting period analyst and supervisors time has been spent in preparing and completing the ASCLD/LAB-International certification. The audit occurred in May of this year and we have only 13 non-compliant areas out of 200. The forensic lab is now in the process of corrective action on the non-compliant areas and anticipates full accreditation soon.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: There has been significant progress toward this goal during this reporting period. Two Full time DNA Technicians were hired and brought on line on September 12, 2011. The Tech's are currently completing all required training and have also been assisting analysts, and collecting paperwork and compiling DNA case files since mid-October. The Technician's will complete training and increase their duties in February of 2012 to include serological screening for rape kits.

During this reporting period DNA Sample time has been reduced by 9%. These numbers are attributed to the following:

- DNA Tech's coming on line as well as Analysts dedicated time increasing (we had one analyst on maternity leave and one splitting time in the Parentage and ID section).
- Validation and implementation of one of two purchased Maxwell 16 Extraction systems
- Decrease of paperwork and input by the implementation of an in-house excel based system with interlinked worksheets for different stages of analysis. This has streamlined the amount of data input that the analysts must complete as it populates data from the previous stage of analysis to the next stage without entering the data at

each step of the process. Each analyst is responsible for submitting monthly reports to the Lab Supervisor who then tracks monthly lab results.

Goal 2: There has been significant progress on this goal as well in this reporting period.

Throughput has been increased by 36%. Again, these numbers are attributable to the DNA Tech's, implementation of equipment and the tracking system. One Maxwell 16 instrument was validated and brought on line during this reporting period and the other Maxwell 16 has been acquired by the lab and will be validated in the first quarter of 2012. The 3500 Genetic Analyzer has been purchased under a different grant and will be validated in the first and second quarter of 2012. Approved supplies under the grant have been procured and will be completely purchased, invoiced and paid for in the first quarter of 2012. A total of 8 DNA IQ Casework Prokits for Maxwell Extraction out of 50 purchased have been utilized during the reporting period and a total of 58 DNA reports have been completed.

Goal 3: Backlog for this reporting period has been reduced by 26%. The backlog for the Lab continues to fluctuate depending upon the amount of new cases submitted to the Lab. In this reporting period, cases submitted remained steady however; we anticipate an increase in cases as we begin to accept rape kits to the Lab. The DNA Technicians will complete training for rape kits and will begin completing serological screening for rape kits as of February 1, 2012. Again, backlog has been reduced by the addition of personnel to the Lab, Equipment coming on line and the implementation of the Tracking system.

FINAL REPORT: PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: The Two Full time DNA Technicians have successfully completed all required training and are in full swing assisting analysts. The Techs have been assigned to assist with rape kit tests that the Laboratory began accepting in February of 2012. During this reporting period the Laboratory saw an increase of turnaround time of 11.11%. For the entire grant period there was no change in the average number of days between the submission of a sample and the delivery of test results (120). In the third reporting period there was a significant drop to 108 that was attributed to the Tech's and instrumentation coming on line however; the laboratory began accepting non-fatal cases (rape kits) in February of 2012 which has impacted turnaround significantly. In addition the Trace Evidence Department had a significant delay due to waiting for additional evidence in a homicide case. This delay in turn impacted the DNA Lab's turnaround time. The DNA Technical manager and supervisor continues to track all Laboratory data on a monthly basis.

Goal 2: There has been adequate progress on this goal as well in this reporting period.

Throughput has been increased by an additional 6.5% in this reporting period. For the entire grant period throughput has increased by 26.66%. Throughput has been attributed to the DNA Tech's and the implementation of equipment. One Maxwell 16 instrument is fully on line during this reporting period and the other Maxwell 16 was validated in the first quarter of 2012 and is now in full usage during this reporting period. The 3500 Genetic Analyzer that was purchased under a different grant is still in validation. Approved supplies under the grant have been procured, invoiced and paid in this reporting period. All 50 DNA IQ Casework Prokits for Maxwell Extraction were purchased have been utilized during the reporting period. A total of 132 cases were worked as a result of supplies that were purchased under this grant award.

Goal 3: Backlog for this reporting period has increased by 1.6%. The reduction in Backlog for the entire grant period has been reduced by 10.44%. The backlog for the Lab continues to

fluctuate due to the amount of new non-fatal cases submitted to the Lab and delays in the trace evidence department. All identified equipment and supplies have been purchased during the grant reporting period.

Funds under this grant (\$105,000.00) award were allocated to the following activities:

1. Salary and fringes for the hire of two DNA Technicians (\$56,360.61). The two technicians were brought on line on September 12, 2011. The Technicians are hourly workers and grant funds were allocated to salary and fringes (FICA and retirement). The Technicians successfully completed competency training and began assisting analysts in February of 2012. They were assigned to assist in the serological testing of rape kits that the Lab began accepting in February of 2012.
2. The purchase of one Promega Maxwell (R) 16 Forensic Instrument (\$28,002.01). This instrument was procured in the first quarter of 2012 and is fully validated and on line.
3. The procurement of various supplies (\$20,637.38) including:
 - DNA IQ Casework Prokits for Maxwell 16. Note that all casework as a result of these supplies purchased under this award has been tracked utilizing the Lab's data tracking system that the DNA Technical Manager and supervisor has implemented.
 - Various Pipette and filter tips.
 - Various chemicals and supplies (Protinease, Phenol, chloroform, alcohol, lysis buffer, DNA IQ reactions, Capillaries, matrix dye standards and micro amp tubes).

All activities under this grant award are completed and all funds have been expended.

FY10 Recipient Name: State of Ohio Office of the Attorney General

Award Number: 2010-DN-BX-K111

Award Amount: \$831,053

Final Report:

GOALS AND OBJECTIVES OF PROJECT: The following goals and objectives were set for award 2010-DN-BX-K111. The progress in meeting each objective is stated below.

Goal: In conjunction with NIJ's FY 2010 Forensic DNA Backlog Reduction Goal, BCI&I will reduce forensic DNA sample turnaround time, increase the throughput of its DNA laboratories, and reduce its DNA forensic casework backlog.

Objective 1: By the end of the project period, BCI&I will reduce its DNA sample turnaround time (the sum of the average turnaround for biology results and the average turnaround for DNA results on cases completed both in-house and outsourced to a vendor) to 100 days by increasing its forensic DNA capacity and testing the majority of casework samples in-house. Note – this Objective amended via a Scope Change on 4/19/2011.

Objective 2: By the end of the project period, BCI&I will increase its forensic DNA casework capacity through the purchase and validation of two Tecan Freedom Evo® 150 robotic platforms, two Tecan Freedom Evo® 75 platforms, and one 96-well GeneAmp® PCR system.

A budget modification GAN was approved on 04/20/2011 that removed the 96-well GeneAmp® PCR system line item and added an Applied Biosystems 3130xl Genetic Analyzer.

Objective 3: Throughout the project period, BCI&I will limit outsourcing of DNA casework to the following three instances: (1) controlling turnaround time, (2) cases requiring

specialized technology, and (3) to comply with court directives that require a neutral third-party laboratory. BCI&I will process forensic DNA casework in-house for all other instances.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective 1: Objective 1 was written with regard to BCI&I's in-house turnaround time of only DNA testing. The objective excludes testing time of biology and outsourced samples as is the case in the first performance metric reported above. At the end of December 2010, the turnaround time for only the DNA testing of in-house samples was 58.4 days.

The BCI&I laboratory expects the reported timeframe to somewhat increase between the period when the FY 09 Backlog Reduction grant funds are exhausted and the time when the newly purchased robots under this grant award are validated and online. Robots purchased using these funds have not yet arrived.

To bring Objective 1 in-line with the first performance metric required for progress reports, BCI&I will submit a scope change document to NIJ during the next reporting period. The scope change will alter Objective 1 by establishing a turnaround time goal that includes the sum of the average turnaround for biology results and the average turnaround for DNA results on cases completed both in house and outsourced to a vendor.

Final achievement of Objective 1 is still pending.

Objective 2: All robots have been ordered but have not yet arrived.

Final achievement of Objective 2 is still pending.

Objective 3: No FY 2010 DNA Backlog Reduction funds were expended or obligated during the reporting period, and no outsourcing activities took place as a result of this grant award.

Final achievement of Objective 3 is still pending.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective 1: During the reporting period, the Ohio Attorney General's Office and the Bureau of Criminal Identification and Investigation underwent an administration change. As part of the change, a top to bottom analysis of the DNA laboratory system was conducted through a five-day Kaizen event aimed at reducing processing time and improving customer satisfaction while maintaining high quality. BCI&I teamed up with the Ohio Department of Administrative Services, Cintas Corporation, and Parker Hannifin Corporation in a public/private partnership to improve laboratory processes and better serve BCI&I's stakeholders. Through execution of Kaizen, a method that uses Lean and Six Sigma tools to identify value added steps in a process while removing waste and variation, the team mapped out BCI&I's current forensic biology and DNA practices and developed a new and improved process.

The combined turnaround time decreased from 149.4 days at the beginning of the award, to 136.4 days at the end of the reporting period. Cases continue to be outsourced as new robots are not yet online.

Final achievement of Objective 1 is still pending.

Objective 2: All robots have been delivered and installed. Validation is underway.

Final achievement of Objective 2 is still pending.

Objective 3: During the first half of the year, 218 cases were outsourced either to control turnaround time or due to the need for specialized technology. Forty-five of these cases were reported to the requesting agency during the reporting period, and 25 profiles were entered into CODIS resulting in eight hits.

Final achievement of Objective 3 is still pending.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1: The combined turnaround time decreased from 149.4 days at the beginning of the award to 103.1 days at the end of the reporting period. Implementation of an automated pathway for differential extractions in the Richfield laboratory and system-wide process changes made as a result of the Kaizen event contributed to the decrease. (Please see Progress Report 2 for more details regarding the Kaizen event.)

Final achievement of Objective 1 is still pending.

Objective 2: Validation of one of the Tecan Freedom Evo® 150 robots was completed in the Richfield laboratory. Validation is underway on the other 150 robot, in the London laboratory. Performance checks on the Tecan Freedom Evo® 75 robots (one at Richfield and one at London) are pending. The Applied Biosystems 3130xl Genetic Analyzer (that was added to the budget through a budget modification GAN) has been delivered, validated, and is online in the Richfield laboratory.

Final achievement of Objective 2 is still pending.

Objective 3: During the reporting period, 164 grant-funded cases were reported to the requesting agency, and 123 profiles were entered into CODIS, resulting in 34 hits. *

Final achievement of Objective 3 is still pending.

*Previously 34 was reported as the number of CODIS hits during July – December 2011. The number is being revised to 20, as 34 was reported in error.

PROGRESS REPORT 4: January 1, 2012 – March 31, 2012

Objective 1: The combined turnaround time decreased from 149.4 days at the beginning of the award to 94.4 days at the end of March 2012. This decrease was achieved in spite of the elimination of outsourcing DNA casework.

Final achievement of Objective 1 is complete.

Objective 2: Validation of the second Tecan Freedom Evo® 150 robots continued in the London laboratory. Performance checks on the Tecan Freedom Evo® 75 robots (one at Richfield and one at London) were in process. The Applied Biosystems 3130xl Genetic Analyzer (that was added to the budget through a budget modification GAN) was delivered, validated, and is online in the Richfield laboratory.

Final achievement of Objective 2 is still pending due to the ongoing validation of the Tecan Freedom Evo® 150 robot.

Objective 3: A total of 217 forensic DNA cases were outsourced during the life of the grant. A total of 157 profiles were entered into CODIS, resulting in 37 hits.

Final achievement of Objective 3 is complete.

FINAL REPORT:

During the project period and with the assistance of funding provided by the 2010 Forensic DNA Backlog Reduction Program, the average turnaround time for a case analyzed by the Bureau of Criminal Identification and Investigation (BCI) decreased by more than 36% from 149.4 days to 94.4 days. During that time period, the average number of samples processed per analyst per month increased by 52% from 41.2 to 62.5. The DNA case backlog was decreased from 1475 to 931. This represents a 37% reduction in the DNA backlog. Progress Report 2 stated that 218 cases had been submitted to outside laboratories for testing. One case number was erroneously duplicated in this count due to a second submission to the vendor laboratory. The number of cases should have been 217 as listed in the Final Report. The DNA testing in these 217 cases

was performed through outsourcing efforts using FY 2010 Forensic DNA Backlog Reduction grant funding.

The Tecan robots have expanded the automation capabilities in the BCI laboratories. The robots also enable redundancy in each lab should units be out of service. The Promega Corporation Differex separation reagents have been validated on the Tecan 150 platform to create an automated pathway for testing sexual assault samples. Further applications for the robots are anticipated going forward.

Of the 37 CODIS hits resulting from testing performed with FY 2010 Forensic DNA Backlog Reduction Program funding, several assisted in the investigation of rapes. One example is a case in which a 48-year-old female was abducted by a stranger and taken to an abandoned house. The victim was vaginally and orally assaulted by the unknown suspect. A rape kit was collected and screened by a BCI analyst. The semen-positive vaginal sample was outsourced to LabCorp for DNA testing. A male profile was obtained and subsequently uploaded to CODIS with a hit to a known offender.

Another success story resulting from FY 2010 Forensic DNA Backlog Reduction funding comes about from a case submitted to BCI by the Cuyahoga County Cold Case Unit. In 1998, a male broke into a female's apartment and vaginally raped the victim. After screening was performed by a BCI analyst, the case was submitted to LabCorp for DNA analysis. A male profile was obtained with a subsequent CODIS hit. He eventually pleads guilty to rape, aggravated burglary, and aggravated robbery. His plea added 30 years to the 20-year sentence he was serving for a previous sexual assault. He was convicted of prior rapes of 7- and 11-year-old girls. He is not eligible for release from prison until 2059.

FY10 Recipient Name: Montgomery County, Ohio

Award Number: 2010-DN-BX-K085

Award Amount: \$249,688

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

1. Reduce the turn-around-time for DNA cases by 20%
2. Increase the monthly total number of samples worked per analyst by 20%
3. Provide required annual training for DNA analysts
4. Purchase preventative maintenance contracts for DNA instrumentation

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During this reporting period, no activity occurred on this grant. Therefore, no funds were expended.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this reporting period, the following expenditures occurred:

1. Travel and registration expenses for one analyst to attend the Bode Technologies conference
2. Preventative maintenance contracts for two capillary electrophoresis units, two automated workstations, STaCS and one real-time PCR unit.
3. Annual update contract for GeneMarker HID network maintenance

Progress on Goals:

Goal 1: The turn-around-time at the end of this reporting period was 23.5 days, which is a 51% reduction. We will attempt to maintain this turn-around-time for the remainder of the grant period.

Goal 1: At the end of this reporting period, each analyst was analyzing 37 samples per month. This is a 48% increase of the start of the award period. We will attempt to maintain this statistic for the remainder of the grant period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goals were added at the suggestion of the Program Office. Adding these goals will accurately reflect the use of the funding awarded to the Miami Valley Regional Crime Lab.

During this reporting period, the following expenditures occurred:

1. Travel and registration expenses for one analyst to attend the Midwestern Association of Forensic Scientists meeting in Chicago, IL.
2. Preventative maintenance contracts for one real-time PCR unit, the temperature monitoring system, and the universal power supply.
3. Overtime for the DNA analysts to process backlog cases

Progress on goals:

Goal 1 – The turnaround time at the end of this reporting period is 32.6 days. This is an increase of 9 days from the previous reporting period. However, this is still below the goal of 38.4 days (20% reduction from beginning of the award period).

Goal 2 – Each analyst is processing, on average, 35 DNA samples per month. This is a slight decrease from the previous reporting period. However, this is still above the goal of 30 samples per analyst per month.

Goal 3 – Since this goal was added at this time, it should be noted that all analysts have received annual required training as a result of these funds. Therefore, this goal has been met.

Goal 4 – The final preventative maintenance contracts were purchased during this period. Therefore, this goal has been met.

Overtime funding is allocated in this grant budget. Therefore, casework metrics have been provided with this report.

Challenges: The section has seen an increase in the number of backlog cases. A clear reason for this is not known. It seems to be a compilation of several influences including the wrap up of validations, resignation of a DNA analyst, and a slight increase of the number of cases submitted to the section.

Successes: The validation and integration of the automated workstations, STaCS software and the in-house spreadsheet for case documentation was completed on December 23, 2011. Funds from this grant and previous grants were used to accomplish this project. Competency tests were provided to the DNA analysts which should be completed by the end of January 2012. At that time, the analysts will be able to use the workstations and all existing software support to process casework.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period, the following expenditures occurred:

1. Overtime to work backlogged cases; total hours = 91.25. This included evidence screening for body fluids, extraction and analysis of DNA, and technical review of the case.

2. Relationship calculation software
3. QIAcube extraction workstation
4. EZ1 Advanced XL extraction workstation

Progress on goals:

Goal 1 – Reduce the turn-around-time for DNA cases by 20%

The turnaround time at the end of this reporting period is 51 days. This is an increase of 19 days from the previous reporting period. To reach this goal, the turnaround time needed to be reduced to at least 38 days. This goal was met during the previous reporting periods, but has gradually crept up since the first reporting period.

Goal 2 – Increase the monthly total number of samples worked per analyst by 20%

Each analyst is processing, on average, 29 DNA samples per month. This is a decrease from the previous reporting period and is just below the stated goal of a 20% increase to 30 samples per analyst per month.

Goal 3 – Provide required annual training for DNA analysts

This goal was met in the previous reporting period. No expenditures for training were made in this reporting period.

Goal 4 – Purchase preventative maintenance contracts for DNA instrumentation

This goal was met in the previous reporting period. No expenditures for maintenance contracts were made in this reporting period.

Overtime funding is allocated in this grant budget. Therefore, casework metrics have been provided with this progress report. During this reporting period, the analysts worked 90.25 hours of overtime.

Challenges: As reported on the last progress report, the section has seen an increase in the number of backlog cases. Contributing factors to this increase include: resignation of one DNA analyst, continued validation of technologies, ancillary duties of the staff, and a slight increase of the number of cases submitted to the section.

Successes: The validation and integration of the automated workstations, STaCS software and the in-house spreadsheet for case documentation was completed on December 23, 2011. Funds from this grant and previous grants were used to accomplish this project. Competency tests were provided to the DNA analysts and completed during this reporting period. At this time, the analysts are able to use the automated workstations and all existing software support to process casework.

FINAL REPORT:

The goals of this grant were as follows:

Goal 1 – Reduce the turnaround time for DNA cases by 20%

At the beginning of the grant period, the turnaround time was 48 days. A 20% reduction of this would have resulted in a turnaround time of 38 days. During the first three reporting periods, this goal was met as measured by the turnaround times of 36, 23.5 and 32.6 days, respectively.

As of this final report, the turnaround time is 51. This seems mostly due to the fact that the staff in the DNA section has been reduced due to the resignation of one analyst in November 2011. Additionally, the staff has worked to finish validations and competency testing on new technologies. Most of this work occurred in the last six months of this grant period.

Without the overtime resources afforded by this grant, our turnaround time might have increased significantly more. The use of funds for working backlog cases assisted the staff in controlling the turnaround time while still performing validations and competency testing. Specifically, the analysts worked 254.75 hours of overtime to analyze 884 cases. Within those cases worked, the following number of DNA profiles was uploaded: 89 to national and 60 to state. Of those profiles uploaded, there were 96 forensic unknowns. Fourteen of those profiles hit convicted offenders and nine hits linked cases for investigation.

Goal 2 – Increase the monthly total number of samples worked per analyst by 20%

At the beginning of the grant period, each analyst was working 25 samples per month. A 20% increase of this would have resulted in 30 samples worked each month. During the first reporting periods, we reached this goal. In this reporting period, we reported 29 samples per analyst per month. While this is one shy of the number needed to reach goal and a decrease from previous reporting periods, the resources afforded by the grant funds allowed us to stay remarkably close to the goal.

At the beginning of the last reporting period, each of the three analysts was completing automation validations and competency testing. In order to give each analyst the time necessary to perform these tasks, the decision was made to process most cases for serology screening and hold the DNA samples to run in large batches on the automated workstations. This contributed to the reduction in the total number of samples worked.

Goal 3 – Provide required annual training for DNA analysts

Each of the DNA analysts attended training in 2011. Grant funds were used to pay for two of these events and related costs. The other analysts in the section were able to attend training that was at no cost to the laboratory.

Goal 4 – Purchase preventative maintenance contracts for DNA instrumentation

Maintenance contracts were purchased for the following instrumentation in DNA:

- Two 3130xl instruments
- Tecan Evo 150 workstation
- Tecan Evo 200 workstation
- Two 7500 real time PCR units
- Universal power supply
- Temperature verification system
- STaCS DNA software

Additional purchases which impacted the overall success of the grant were:

- Temperature verification kit for the 7500 real time PCR units
 - Two extraction workstations (validations pending)
 - Upgrade of the electrical service in the DNA office
 - Software upgrade to GeneMarker ID
 - Purchase of relationship calculation software
 - Diamond scribes to remove hairs from permanent mounting media on microscope slides
-

FY10 Recipient Name: Stark County, Ohio

Award Number: 2010-DN-BX-K075

Award Amount: \$106,400

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goals for the DNA backlog reduction program at the Canton-Stark County Crime Laboratory are as follows: (1) reduce the number of backlogged cases awaiting biological screening and/or DNA typing, (2) reduce the overall turnaround time for evidence with a DNA request and (3) increase the capacity and efficiency of examinations in the DNA evidence workflow. The laboratory plans to achieve these goals by implementation of photodocumentation hardware, digital asset management software and a second thermal cycler. The laboratory has set forth the following objectives for the attainment of the program goals:

Objective 1: The laboratory will purchase photodocumentation hardware with digital asset management software.

Objective 1.1: The laboratory will implement the photodocumentation hardware and digital asset management software into casework.

Objective 1.2: The laboratory will integrate the electronic data generated by the photodocumentation software and equipment with the existing laboratory management software.

Objective 2: The laboratory will purchase an additional thermal cycler.

Objective 2.1: The laboratory will performance check and approve the thermal cycler for casework.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

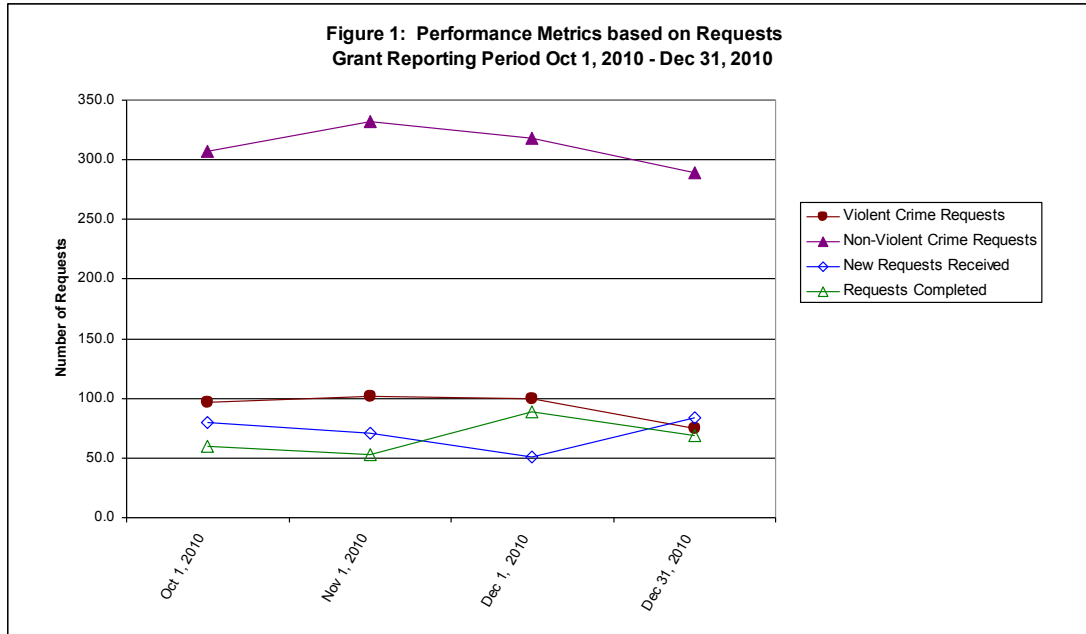
Objective 1: *The hardware and software was not acquired by the end of the reporting period.*

Objective 2: *The thermal cycler was not acquired by the end of the reporting period.*

Reporting Period Comments

The apparent increase turnaround time and decrease in analyst productivity indicated by the performance metrics is misleading. During the reporting period, the key personnel involved in the project were out of the laboratory more than normal for the following: training and conference attendance (112 man hours), government holidays (120 man hours) and personal time off (168 man hours). Without these absences from the laboratory, turnaround times and analyst productivity are expected to be approximately what they were at the beginning of the reporting period.

Despite the increase in turnaround time and decrease in analyst productivity demonstrated by the reported performance metrics, the laboratory has not experienced an overall increase in the number of requests waiting for testing. The Canton-Stark County Crime Laboratory keeps the majority of its statistics based on the number of requests, not the number of cases. Figure 1 depicts the fluctuation in the number of requests for violent crime requests waiting for testing, the number of non-violent crime requests waiting for testing, the number of new requests submitted to the Biology/DNA section of the laboratory and the number of Biology/DNA requests completed during the reporting period.



The laboratory did not acquire the equipment intended for purchase with the grant funds due to the brevity of this reporting period. In addition, due to organizational financial rules, purchases are suspended during the month of December. It is the intention of the laboratory to place the order for the thermal cycler as well as to begin the bidding process for the photodocumentation equipment and software in the coming weeks so that further progress toward the project goals and objectives can commence.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective 1: *The hardware and software was delivered to the laboratory. The staff received training on the new equipment on May 3 & 4, 2011.*

Objective 1.1: *The photodocumentation hardware and digital asset management software was incorporated into casework in May 2011 following staff training.*

Objective 1.1 complete.

Objective 1.2: *The laboratory is waiting on software updates to the existing laboratory management software. Until these updates are completed, the integration of the electronic data generated by the photodocumentation software will not be able to be completed.*

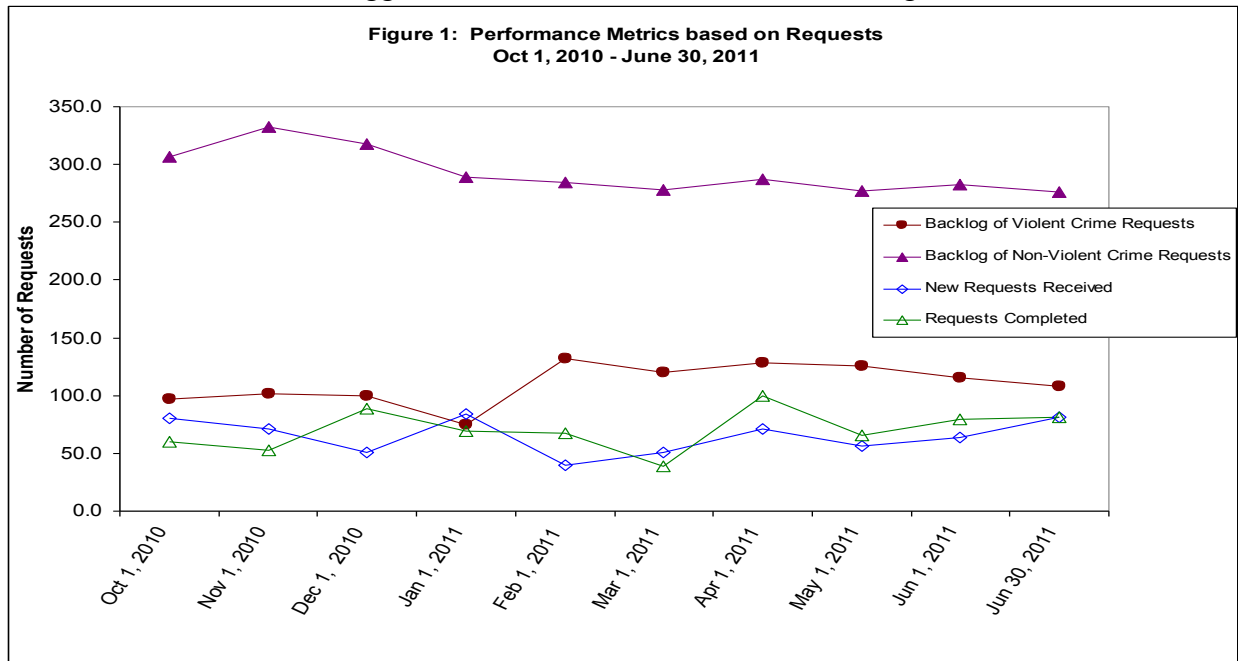
Objective 2: *The thermal cycler was delivered to the laboratory in March 2011. Objective 2 (including all subsections) complete.*

Objective 2.1: *The thermal cycler was performance checked and approved for casework on May 1, 2011. Objective 2.1 complete*

Reporting Period Comments:

The laboratory is well on the way to completing the objectives set out for the attainment of the overall program goals. The last and final portion of this project, integration of the photodocumentation equipment (objective 1.2), will satisfy all of the objectives of this program. However, the overall impact of the project on the backlog, turnaround time, capacity and efficiency of the laboratory will not be fully realized for some time following full implementation of this project.

The perceived increase in case turnaround time recorded in the performance metrics results from the laboratory's increased ability to process older backlogged cases, mostly non-violent crime requests, in recent months (Figure 1). The laboratory has been able to process the oldest cases in the backlog while still meeting required deadlines for the more recent violent offenses. The laboratory continues to demonstrate a decrease in the overall number of cases in the backlog. Since January, the backlog total has been reduced by 34 cases. The laboratory anticipates that the casework turnaround time will improve in future months as more of the older backlogged cases are eliminated from the backlog.



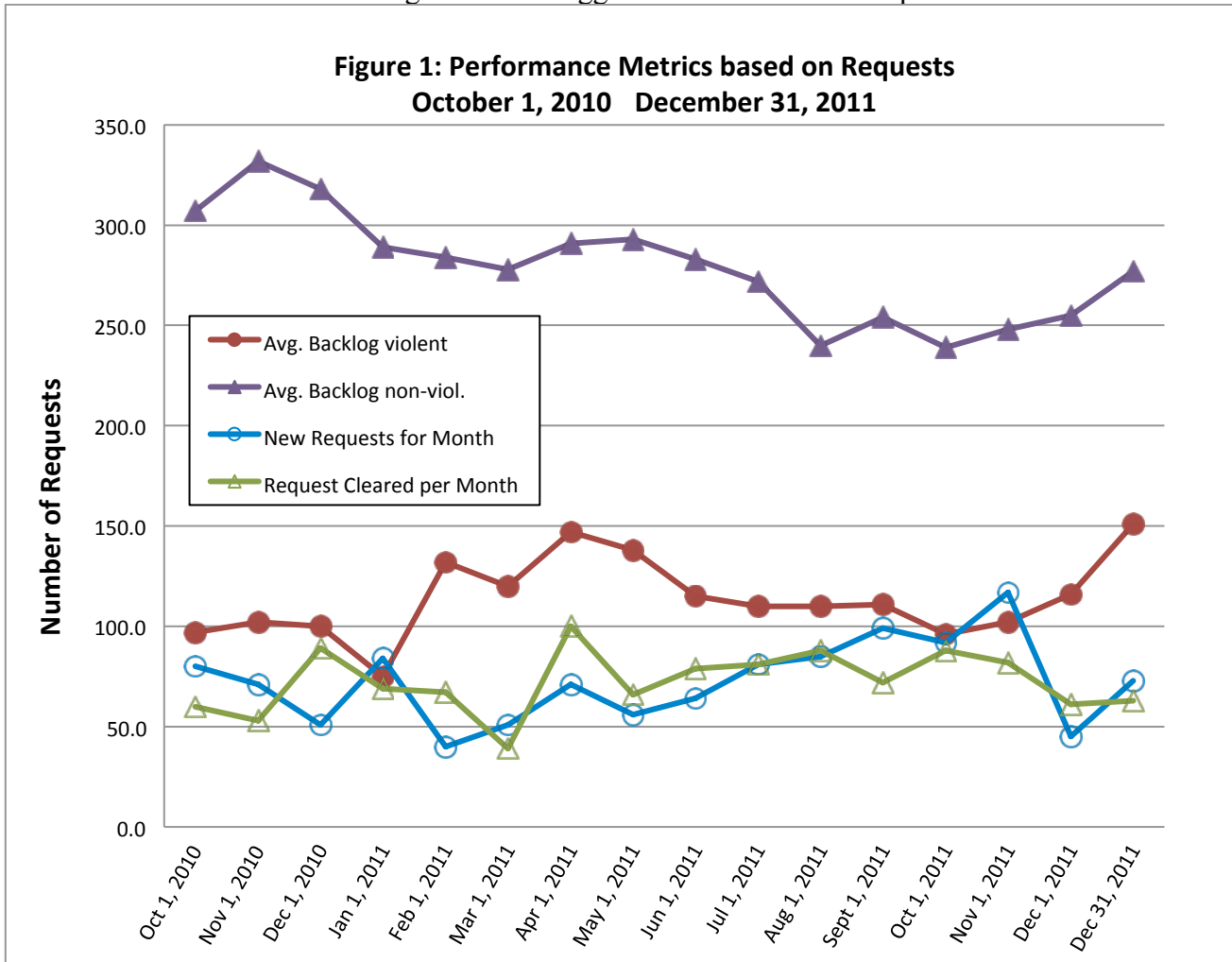
PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1.2: *The laboratory is still waiting on the final delivery of the software updates to the existing laboratory management software. A draft version of the updates to the laboratory management software was submitted to the laboratory for review in November 2011. However, the software was sent back to the developer for debugging. The developer expects to deliver the final version of the updated laboratory management software in the coming weeks so that the integration of the electronic data generated by the photodocumentation software can be completed.*

The laboratory has completed all but one of the objectives set out for the attainment of the overall program goals. The last and final portion of this project, integration of the photodocumentation equipment (objective 1.2), will satisfy all of the objectives of this program. However, the overall impact of the project on the backlog, turnaround time, capacity and efficiency of the laboratory will not be fully realized for some time following full implementation of this project.

The perceived increase in case turnaround time from 128 days to 147 days recorded in the performance metrics from October 1, 2010 through December 31, 2011 results from three main factors: increased processivity of the oldest cases in the backlog, increased demand and

reduced analyst availability. The laboratory has been able to process more of the oldest requests (mostly non-violent crimes) over the course of the grant period (Figure 1). By processing the oldest cases in the backlog, the reported turnaround timeframe from request submission to report delivery is similarly increased. The laboratory also experienced a steady increase in new requests for biology/DNA analysis from May 2011 through November 2011. This increased demand outstripped the laboratory's current ability to continue to work the oldest cases in the backlog while still meeting required deadlines for major investigations of violent crimes and court dates. At the same time that the laboratory was experiencing the increased demand, the laboratory also experienced additional planned and unplanned unavailability of key personnel involved in completing biology/DNA casework for the following: training and conference attendance (56 man hours), government holidays (144 man hours) and personal time off (264 man hours). Despite the challenges experienced during this reporting period, the laboratory continues to demonstrate a decrease in the overall number of cases in the backlog and an improved turnaround time with regard to backlogged non-violent crime requests.



FINAL REPORT: March 26, 2012

Objective 1.2: *The laboratory has received the final delivery of the software updates to the existing laboratory management software as well as the software interface which will allow integration of information from the photodocumentation systems into the laboratory management software. Objective 1.2 complete. All Objectives for this project are complete.*

The laboratory has completed all of the objectives set out for the attainment of the overall program goals. However, the overall impact of the project on the backlog, turnaround time, capacity and efficiency of the laboratory will not be fully realized for some time following full implementation of this project.

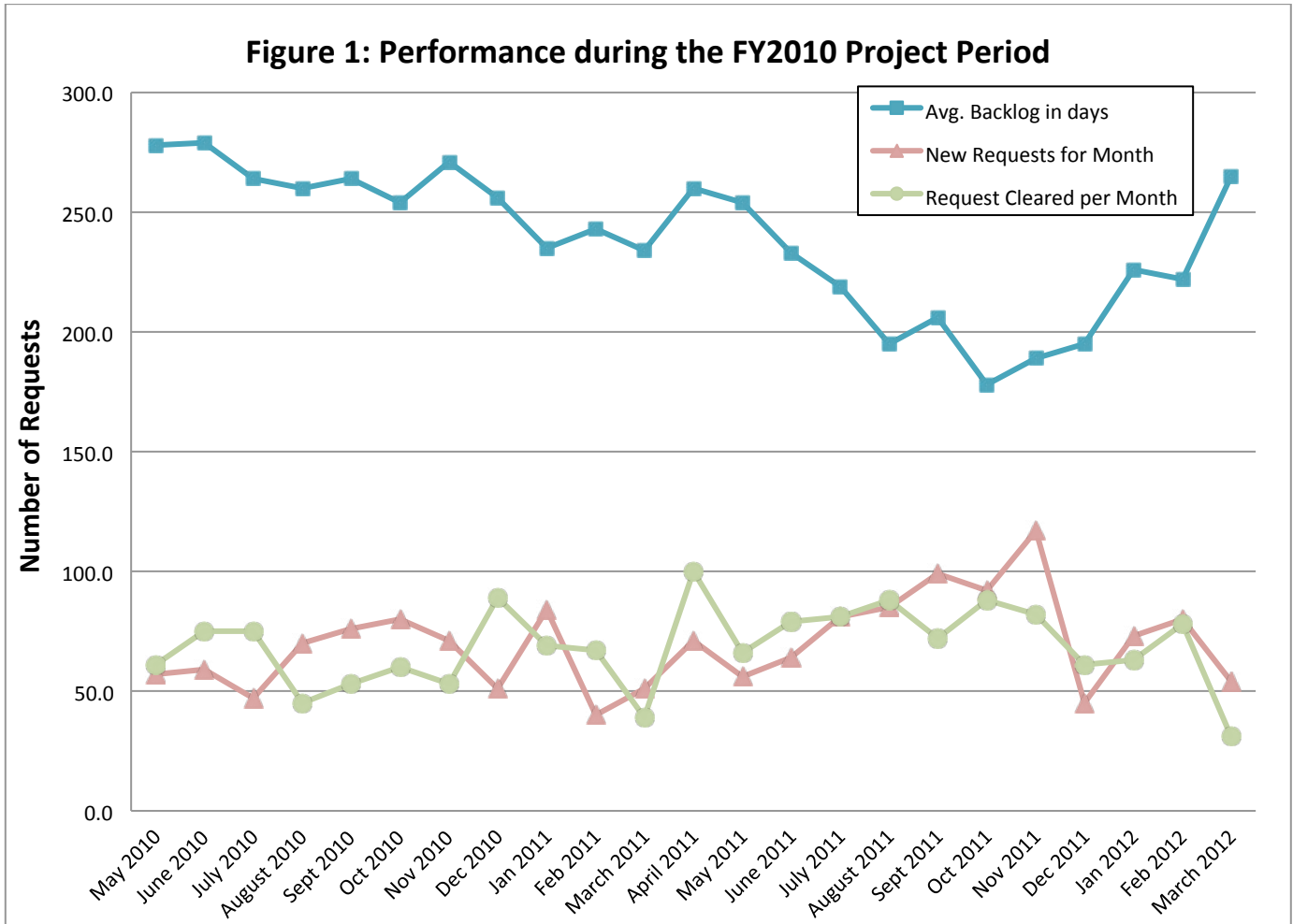
The photodocumentation equipment purchased by the laboratory has been a great improvement over manual note-taking methods. Though the ability to integrate the photodocumentation equipment with the laboratory management software was not completed until the very end of the project, the impact of the photodocumentation equipment was quickly realized in the improved quality and clarity of the examination notes generated with the photodocumentation equipment. Now that the data generated from the photodocumentation software will be able to be electronically integrated into the laboratory management software, the laboratory will be able to make steps to become even more efficient.

The addition of the second thermal cycler has also been helpful in that it has increased the capacity and flexibility of DNA processing. Moreover, the second thermal cycler has been able to be used as a back-up instrument when the older instrument has been in need of maintenance so that DNA processing can continue without interruption.

The key personnel involved in the project were hampered by two main factors during the course of this project: reduced analyst availability and unexpected administrative issues. The laboratory experienced reduced analyst availability through the planned and unplanned unavailability of key personnel involved in completing biology/DNA casework for the following: training and conference attendance, government holidays and personal time off. This was experienced throughout the project period but was most notable in late 2011 into 2012. Additionally, the laboratory experienced the unexpected loss of the laboratory director in early 2012 which put additional casework & non-casework duties on the biology/DNA analysts in order to fill the operational needs previously completed by the laboratory director. As a result of this administrative issue, the ability of the biology/DNA staff to focus on casework was severely hindered and adversely affected the performance metrics for the final reporting period (Figure 1).

Despite the challenges experienced during this project period, the laboratory has laid the groundwork for further efficiency improvements at the laboratory. Though not clearly demonstrated by the performance metrics, this project has been beneficial to the laboratory. Throughout the project, the laboratory has been able to process more of the oldest cases in the backlog. However, this achievement resulted in an increase in the turnaround time from the request submission to the delivery of the report. Prior to the start of this project, the laboratory had focused an increasing number of resources to meeting deadlines for court cases and major criminal investigations instead of processing cases in the backlog. The laboratory is now in a better position to be able to process priority cases as well as those in the non-priority backlog. The laboratory expects to see future improvements such as quicker

turnaround time, reduced backlog, increased capacity and improved efficiency as a result of this project.



FY10 Recipient Name: Hamilton County, Ohio

Award Number: 2010-DN-BX-K062

Award Amount: \$105,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To reduce the backlog by 32 old cases. Because of the continuing impact of the economic recession in this region, public funding continues at drastically reduced levels. Grant funds will insure supplies are available to process backlogged cases. The laboratory will process these cases in-house using existing procedures and recently upgraded equipment.

Goal 2: To reduce the turnaround time by at least 5%. Even though the turnaround time continues to increase, the laboratory is taking steps to improve its efficiency and

effectiveness. Feedback to submitting officers will help eliminate the submission of items with a low probability of producing CODIS eligible DNA profiles.

Goal 3: To complete implementation of automated systems purchased as a result of previous grant funded projects. At the completion of validation, analysts will fully integrate them into the workflow of the laboratory. This will contribute to improving the turnaround time.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: Because Hamilton County was closing its books during this quarter, it was not possible to purchase the supplies needed for this grant-funded effort. The laboratory focused on completing the requirements of the previous FY 09 DNA grant, which overlaps this grant. Hence, the laboratory made no progress towards this goal, it is still pending.

Goal 2: No grant funds were expended during this period to address the need to reduce the turnaround time. Hence, this goal is still pending. Time was devoted to training a new analyst, using extraction kits before they expired, and complete ISO assessment remediation requirements. These administrative efforts temporarily distracted analysts from casework, but having completed them, the laboratory will be in a better position to increase efficiency. The analysts also set up a procedure for collecting statistics regarding the most effective evidence items for producing “Touch DNA” profiles. This information will form the basis of limiting submissions in the future.

Goal 3: The laboratory made little real progress towards this goal and it is still pending. Analysts still have to validate the Qiagility liquid handling robot so it can be used for casework. Conversely, all analysts concentrated on initiating the extraction phase of many cases in order to consume the extraction kits before they expired at the end of the year. Twice as many cases are now in progress as in the previous quarter and these will be reported as further analytical steps are completed. The previous purchase of the two EZ1 extraction robots made this possible.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: The laboratory is in the process of allowing the previous blanket purchase orders to expire before ordering the supplies needed for this grant. Additionally, there are minor changes being implemented to the laboratory management structure. These will result in the DNA Technical Leader having greater direct control over the DNA grant administration. In fact, by the end of 2012, the DNA Technical Leader will assume full control of the DNA grants as both the financial and programmatic point of contact. Because of these situations, no progress was made directly towards using grant funds to meet the goal of reducing the backlog by 32 cases.

Goal 2: The turnaround time has remained high although the backlog has been decreasing. The backlog is decreasing because of a reduced level of submission due to changes in policy on what cases will be accepted. We are now limiting submissions of “touch DNA” to those items brought to the crime scene by the perpetrator. We are still working our way through all the cases that were submitted under the old rules in which we accepted anything. Consequently, we are still processing time

consuming cases. When we have worked our way through those cases, we can expect to start seeing a true reduction in turnaround time.

Goal 3: Substantial progress was made towards completing the validation of the liquid handling robot. That work is almost complete. We expect this goal to be met shortly. Additionally, we have completed recalibrations of the pipettes and one of the analysts has met her continuing education requirements. One of the major accomplishments during this reporting period was the installation of the new CODIS terminal. This project required overcoming major hardware/software incompatibility problems. Now that those problems are under control we can turn our attention to casework.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Supplies were purchased with grant funds and 32 cases were in fact processed. The backlog statistics indicate that number of unprocessed cases continues to decrease for a variety of reasons. These include increased efficiency, more stringent submission polices and the implementation of automated processes.

Goal 2: Even though the turnaround time has been decreasing, it is still more than at the start of the grant. We are continuing to fully implement grant funded improvements.

Goal 3: The validation of the liquid handling robot is now complete and the analysts are learning how to incorporate that technology into their workflow. This has contributed to the decrease of backlogged cases. Additionally, two analysts met their continuing education requirements by attending the Promega and MAFS conferences.

FINAL REPORT:

Goal 1: Goal 1 of reducing the backlog by 32 cases was met. 32 cases were analyzed with grant funds of which 16 generated CODIS eligible DNA profiles. As of this date, 8 have produced DNA hits. This is in line with the laboratory's general experience in that about 22 to 24% of our DNA cases produce CODIS hits.

Goal 2: Goal 2 of reducing the turnaround time by 5% was not met. On the other hand, the turnaround time essentially remained the same without increasing. Of course it varied both up and down during the course of the grant period. This was largely due to administrative distractions rather than technical reasons. Preparation for the first annual ISO surveillance visit, dealing with numerous problems caused by the changeover to a new CODIS terminal, and dealing with the untimely death of the Coroner all required time away from performing casework. Additionally, the DNA Technical Leader/CODIS Administrator became the section supervisor (Chief DNA Analyst) as part of the laboratory restructuring in preparation for the Laboratory Director's retirement in December. This required her to take time away from casework to perform the normal personnel management functions of a manager. It is to the analyst's credit that they were able to maintain the same level of samples per analyst per month as in previous periods. The significant success during this period was the dramatic decrease in backlogged cases. This resulted from the cases submitted under the new rules finally coming up for analysis. These cases were submitted during the period when restrictions were imposed on "Touch DNA" submissions. In Jan. 2011, the laboratory imposed a policy of only

accepting “Touch DNA” evidence that had been brought to the crime scene by the perpetrator. This eliminated a large amount of unproductive work that previously would have detected the victim’s DNA or mixtures not suitable for CODIS entry. To underscore this policy and improve the collection efficiency of investigating officers, the laboratory provided them with a reference card of the most (and least) productive types of evidence. The information on this card was derived by the laboratory director from a careful study of over 1,000 cases analyzed the previous year. This project was actually a refinement of a similar study he completed the previous year based on work reported by Cecelia Crouse at the October 2009 Grantee’s meeting. These results were summarized in a table and reduced to a color coded card. A small amount of grant funds (\$250.00) were devoted to printing 500 laminated, color, pocket-sized reference cards. We are continuing to use these cards when instructing officers about evidence collection. See the separate attachment.

Goal 3: Goal 3 of completing the validation of the Qiagility automated system was accomplished and the instrument is now being used for casework.

FY10 Recipient Name: Oklahoma State Bureau of Investigation

Award Number: 2010-DN-BX-K051

Award Amount: \$571,115

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal – To reduce the backlog and the turn-around time of the DNA lab

Objective 1 - reducing analysts’ hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab and the Forensic Science Center Extraction room to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Objective 6 - provide current literature covering DNA specific validations and research to allow analysts access to the newest methods and trends

Objective 7 – (added during period July through December 2012) provide advanced analytical software for the processing of DNA sample which provide greater detail and information for analysts

Objective 8 – (added during period July through December 2012) provide CODIS offender kits for the collection of CODIS eligible offenders

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

NOTE: The casework stats above only reference cases worked using overtime from this grant.

Supplies and Technician salaries were being paid on the 2009-DN-BX-K063 grant through December 31, 2010. Starting January 2011, the Technicians salaries will be paid from this grant and the number of cases will reflect that contribution.

Goal – To reduce the backlog and the turn-around time of the DNA lab

Progress – We have already seen progress in our overall goal due to the progress completed on each specific objective listed below. The overall turnaround time has been decreased by 38 days and the backlog of cases pending has been reduced by 115.

Objective 1 - reducing analysts' hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Progress - In this reporting period, the lab made progress in converting the two part time technician positions to two full time positions. The additional hours will allow the technicians to work a full 40 hour week thereby being able to assist the analyst on a more consistent basis. The technician salaries will be paid from this grant beginning January 1, 2011.

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Progress - Overtime funds have been used since October 24, 2010. This has resulted in additional cases being worked that would have otherwise not been worked during this period.

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Progress – No kits have been purchased on this grant due to remaining funding on the 2009-DN-BX-K063 grant for this same purpose. A special condition exists for purpose.

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Progress - All equipment with the exception of the document scanners has been ordered and purchase orders issued. These items have not been received.

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Progress - Bids have been received on the renovation project to the Tahlequah laboratory. The renovations are due to begin in January or February.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal – To reduce the backlog and the turn-around time of the DNA lab

Progress – The OSBI is making progress on this grant. Funds are being expended in all categories except supplies, and soon funds will only remain in personnel/ fringe benefits and supplies. This grant has had a direct impact on the OSBI's lowest turnaround time ever recorded. The laboratory continues to work towards reducing the turnaround time and total backlog with the goal of one day working cases as they are submitted.

Objective 1 - reducing analysts' hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Progress - The OSBI completed the conversion of the two biology casework technicians to full time positions. The two technicians have also begun DNA training in addition to their normal casework duties. The OSBI has seen a great benefit in having these two positions working full time.

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Progress - Overtime continues to be expended at an acceptable pace.

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Progress – No kits have been purchased on this grant due to remaining funding on the 2009-DN-BX-K063 grant for this same purpose. A special condition exists for purpose.

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Progress - The document scanners are the only pieces of equipment remaining to be purchased. All other equipment has been received.

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Progress - The renovation of the Tahlequah laboratory is coming to a close, and appears to be very close to on-budget.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal – To reduce the backlog and the turn-around time of the DNA lab

Progress – The OSBI is making progress on this grant. Funds are being expended in all categories. This grant continues to have a direct impact on the OSBI's lowest turnaround time and reduced backlog. During this period, the laboratory observed an increase in the amount of cases submitted, but we were able to close an additional 135 cases while reducing the turnaround by 4 days and increasing the number of samples analyzed per analyst per month by 14. The funds used to purchase the items on this grant have had a direct impact on this laboratories increase in efficiency.

Objective 1 - reducing analysts' hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Progress – Funds continue to be expended for the technicians. One technician is anticipated to be hired as a criminalist during the next period. Preparations are underway to post the position and interview as soon as the transfer is complete.

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Progress - Overtime continues to be expended at an acceptable pace.

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Progress – During August 2011, the special condition was removed from this grant for the purpose of purchasing the supplies. Since that time, purchases have been made, and the funding is being expended at an acceptable and anticipated rate.

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Progress - The document scanners were removed during this period and purchased through another grant. Additional computers were requested for the FSC renovation. These computers have been ordered, but they have yet to be received.

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab and the Forensic Science Center Extraction room (added during this period) to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Progress - The renovation of the Tahlequah laboratory was completed. The quote, purchase order and a majority of the work has been completed on the FSC extraction room renovation. Some additional work will occur early during the next period to finish the renovation.

Objective 6 – (added during this period) provide current literature covering DNA specific validations and research to allow analysts access to the newest methods and trends

Progress – The subscription has been renewed to FSI: Genetics.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal – To reduce the backlog and the turn-around time of the DNA lab

Progress – The OSBI is making progress on this grant. Funds are being expended in all categories. This grant continues to have a direct impact on the OSBI's lowest turnaround time and reduced backlog. During this period, the laboratory continues to observe an increase in the amount of cases submitted, but we were able to close roughly the same number of cases as last period decreasing the backlog by an additional 54 cases and increasing the number of samples analyzed per analyst per month by an additional 12. The funds used to purchase the items on this grant have had a direct impact on this laboratories increase in efficiency.

Objective 1 - reducing analysts' hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Progress – Funds continue to be expended for the technicians. Interviews were completed for the vacant technician position. An individual has been offered a conditional offer and the background is under way. A start date should be early next period.

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Progress – Analysts are using more overtime, and it continues to be expended at an acceptable rate.

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Progress – All funds for kits have been expended as of June 30, 2012. Funding from additional grants will be used for supplies in the future. Without these funds, the OSBI would not have been able to continue DNA analysis and have the impact we currently have on our backlog.

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Progress - Additional computers were requested for the FSC renovation. These computers have been received and installed.

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab and the Forensic Science Center Extraction room (added during this period) to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Progress - The renovation of the Tahlequah laboratory and the FSC extraction room have been completed. Both renovations have had a significant impact on the workflow. The FSC extraction room renovation has nearly doubled the amount of space and work areas for analyst during this time consuming step of the process. Analysts no longer have to share space or wait for another analyst to finish before starting their work.

Objective 6 –provide current literature covering DNA specific validations and research to allow analysts access to the newest methods and trends

Progress – The subscription has been renewed to FSI: Genetics.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

NOTE: The stats for this period regarding number of cases closed and CODIS information only cover July and August. Starting September, technician salaries, supplies and overtime were paid from another grant. It should also be noted that the increase in overall cases can be attributed to the temporary shutdown of one of OSBI's regional laboratories due to staffing in addition to reduction of staff due to FMLA leave. These reductions in staff in conjunction with an overall increase in submittals have resulted in higher than previous numbers.

Goal – To reduce the backlog and the turn-around time of the DNA lab

Progress – Considering the “NOTE” above, the OSBI continues to make great strides in managing the backlog and turnaround time on Biology Cases. New equipment, renovations and technicians have all aided in more efficient workflow. As staffing levels return to normal, the items provided through this grant will assist in meeting this goal.

Objective 1 - reducing analysts' hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Progress – A second technician was hired for the case working section. This brings the total technicians back to three for the agency. All funds from this grant have been expended for the technician salaries. Technicians will now be paid from one of the other grants.

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Progress – All overtime funds have been expended on this grant.

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Progress – All funds were expended in this category during the last period.

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Progress – All funds in this category have been expended.

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab and the Forensic Science Center Extraction room to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Progress – This objective was completed during the previous period.

Objective 6 - provide current literature covering DNA specific validations and research to allow analysts access to the newest methods and trends

Progress – This objective was completed during the previous period.

Objective 7 – provide advanced analytical software for the processing of DNA sample which provide greater detail and information for analysts

Progress – The software was purchased, delivered and installed. The OSBI is currently in the process of validating the new software for use.

Objective 8 – provide CODIS offender kits for the collection of CODIS eligible offenders

Progress – The offender kits have been order. Delivery should occur early in January.

FINAL REPORT: October 1, 2010 – December 31, 2012

Goal – To reduce the backlog and the turn-around time of the DNA lab

Progress – The OSBI continues to make great strides in managing the backlog and turnaround time on Biology Cases. New equipment, renovations and technicians have all aided in more efficient workflow. As staffing levels return to normal, the items provided through this grant will assist in meeting this goal.

Objective 1 - reducing analysts' hands on time during analysis steps and increase the amount of time analysts have available for casework through the continued use of technicians

Progress – Two technicians were maintained through most of the time period covering this grant. Two of the technicians obtained positions as analysts which allowed two additional technicians to be hired. These positions allow the analysts to spend more time in casework while also allowing the OSBI to train and potentially hire qualified analysts. These positions have been some of the most beneficial funded on this grant.

Objective 2 - increasing the number of samples analyzed by providing overtime for sample analysis, documentation, and review of validation studies and training of new analysts

Progress – The overtime funded through this grant significantly impacted the OSBI. During this period, one regional laboratory was taken off casework due to limited personnel. The Forensic Science Center covered the cases for this laboratory while having limited personnel at times due to family and other types of leave. The overtime allowed the unit to maintain the backlog while increasing the number of items analyzed.

Objective 3 - maintaining the level of DNA STR and quantitation kits necessary to process current and growing numbers of cases

Progress – Due to state budget cuts over the last few years, the OSBI has had to rely on this grant to fund STR and quantitation kits. This funding has allowed the OSBI to continue DNA analysis and impacted the overall backlog and turnaround time.

Objective 4 - providing additional equipment to prevent analysts from waiting for equipment

Progress – The additional equipment (CrimeScope , Speckfinder Digital Microscope and the crosslinker) has allowed the analysts to process samples quicker due to reduced wait times. In addition, the computers purchased as equipment to equipment the renovations have allowed reduced wait times and greater access to programs used in the documentation and analysis of evidence. This has impacted both turnaround time and backlog.

Objective 5 - renovating (to include additional stools and computers) the Tahlequah Regional Laboratory Biology lab and the Forensic Science Center Extraction room to improve efficiency and provide additional work areas for analysts eliminating shared spaces

Progress – Both renovation projects have greatly benefitted the OSBI. The renovation of the Tahlequah laboratory has allowed evidence to be submitted and ready for Biology analysis quicker. The renovation has also allowed more analysts to work at the same time in the laboratory. The renovation of the Forensic Science Center has allowed each analyst to have an extraction and DNA processing area while also allowing the OSBI to meet changes in the QAS for separation of quantitation instruments and setup. Both renovations have directly impacted the turnaround time and backlog.

Objective 6 - provide current literature covering DNA specific validations and research to allow analysts access to the newest methods and trends

Progress – The funding for this objective has allowed the OSBI to maintain a subscription to a journal covering the most advanced research and development of DNA methods. This allows the analysts to maintain literature review criteria while also providing new ideas and methods.

Objective 7 – provide advanced analytical software for the processing of DNA sample which provide greater detail and information for analysts

Progress – The new analysis software will be validated and fully implemented in the coming months. The OSBI anticipates this software will have a significant impact on the time required for analysis of items. Increasing both efficiency and effectiveness of analysis will further aid in reduced turnaround times and decreased backlogs.

Objective 8 – provide CODIS offender kits for the collection of CODIS eligible offenders

Progress – The offender kits will allow the CODIS unit to continue the collections of samples as mandated by state law. Due to reductions in state budgets, these kits were not able to be purchased without this funding.

It should also be noted, that the OSBI has observed an overall decrease in the turnaround and an increase in the number of cases and items analyzed. During the period of this grant, it was not unusual for the OSBI to reach the 30 day turnaround time. Increased submission, personnel leave and reduced personnel in the Lawton Laboratory have all contributed to the overall increase in number of cases pending; however, the OSBI has been working these cases faster and returning valuable results to officers and courts. As personnel and laboratory issues are resolved, the OSBI anticipates being able to continue to goal of a maintained turnaround time of 30 days. Without the funds from this grant, the objectives listed above would not have been reached. This funding has significantly impacted the OSBI's ability to provide timely and accurate results from forensic cases to all of our customers.

FY10 Recipient Name: City Of Tulsa, Oklahoma

Award Number: 2010-DN-BX-K079

Award Amount: \$317,089

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Objective 1: Acquire and install a Laboratory Information Management System and computer tablets.

Objective 2: Improve efficiency and decrease the case backlog by 10% the first year of operation.

Objective 3: Use the data that is produced, compiled, and/or stored by the LIMS system in annual Quality Management audits of the laboratory.

Objective 4: Purchase Office 2010, signature pads, fingerprint readers, label printers, scanners, and Adobe Acrobat Professional. Purchase GeneMapper, Windows 7 Upgrade, and an electronic repeater pipette. Note: added with Budget Modification GAN approved 5/10/11; also modified with Budget Modification GAN approved on 8/11/2011

Objective 5: Purchase 2 1 computer servers. Note: originally added with Scope GAN 2 approved on 4/13/2011. Removed with Budget Modification GAN approved on 8/11/2011

Objective 6: Purchase Fundamentals of DNA Typing and Advanced Topics in DNA Typing Books, UV Crosslinker, and UV Tubes. Note: added with Budget Modification GAN approved approximately 10/3/11.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective 1: The lab has created the technical specifications for the bid and identified the three main vendors to send the bid (Porter Lee Corp., JusticeTrax and Forensic Advantage Systems). The bid is currently in the City of Tulsa Purchasing Division and should be released for bid in the month of January 2011. The Mayor and City Council have approved the grant and the necessary accounts have been created by the Finance Department. The City of Tulsa Information Technology (IT) Department has created a project team to assist in the implementation of the LIMS.

Objective 2: The lab has created the technical specifications for the bid and identified the three main vendors to send the bid (Porter Lee Corp., JusticeTrax and Forensic Advantage Systems).

The bid is currently in the City of Tulsa Purchasing Division and should be released for bid in the month of January 2011. The Mayor and City Council have approved the grant and the necessary accounts have been created by the Finance Department. The City of Tulsa Information Technology (IT) Department has created a project team to assist in the implementation of the LIMS.

Objective 3: The lab has created the technical specifications for the bid and identified the three main vendors to send the bid (Porter Lee Corp., JusticeTrax and Forensic Advantage Systems). The bid is currently in the City of Tulsa Purchasing Division and should be released for bid in the month of January 2011. The Mayor and City Council have approved the grant and the necessary accounts have been created by the Finance Department. The City of Tulsa Information Technology (IT) Department has created a project team to assist in the implementation of the LIMS.

SPECIAL REQUEST REPORT SUBMITTED 4/13/2011

There was an error in the reporting of the samples analyzed per month per analyst at the beginning of the award period and at the end of the reporting period. The numbers listed were the total average number of samples and not the average per analyst per month. The values have been corrected.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

The bid was released to the public and there was only one vendor that bid. The bid is currently in the Legal Department for review. After the Legal Department reviews the bid it will go to the Mayor for signature. A City of Tulsa Charter was finalized between the IT Department and the Forensic Laboratory for the implementation of the LIMS. A purchase order will be generated for the LIMS and Annual Maintenance as soon as the Mayor signs the bid and formally awards the LIMS project to the vendor. Once formally awarded, the vendor will be contacted to begin implementing the LIMS. It will take six months for the LIMS system to be implemented into the Laboratory according to the vendor. The six tablets have been ordered through the IT Department and are awaiting delivery. The Microsoft Office 2010 Professional Plus software has been purchased and is awaiting installation by the IT Department. The computer accessories (Signature Pads, Label Printers, Scanners and Fingerprint Readers) have been ordered and are awaiting delivery. The Adobe Acrobat Professional X has been ordered and installed.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1: The computer tablets have been delivered to the laboratory and are in use. This part of the objective is complete. The bid for the Laboratory Information Management System (LIMS) has been accepted by the City and a purchase order has been generated. The LIMS is currently being implemented in the Laboratory. The staging LIMS has been installed and a kick-off meeting was held from January 3rd to January 6th. The Laboratory is in the process of revising worksheets for the LIMS. Due to the uncertainty of making the original deadline of the Grant, a grant extension for one year was requested and granted on 12/16/11. The laboratory is certain that the implementation of the LIMS can be accomplished before the new expiration date of 3/31/13.

Objective 2: The efficiency of the Biology section has already been improved due to the implementation of the tablets. The turnaround time has decreased 40 days since the beginning of the grant. Once the LIMS is in operation, the efficiency will continue to increase and the backlog will decrease. The number of samples analyzed per analyst has decreased but is a result

of the amount of time required to be dedicated on the implementation of the LIMS. This objective has been completed.

Objective 3: The staging LIMS has demonstrated a number of management reports utilizing data that is produced, compiled and/or stored by the LIMS and can be utilized in annual Quality Management Audits of the Laboratory. This objective has been completed.

Objective 4: Microsoft Office 2010 Professional Plus has been purchased and installed on all necessary computers. The signature pads, fingerprint readers, label printers, scanners, Adobe Acrobat Professional X, GeneMapper ID-X, Windows 7 upgrade, and all but one electronic repeater pipette has been purchased. One electronic repeater pipette is needed to be purchased before this objective is completed.

Objective 5: This objective has been completed. The servers were not needed (supplied by the City) and removed with Budget Modification GAN's.

Objective 6: Fundamentals of DNA Typing and Advanced Topics in DNA Typing Books, UV Crosslinker and UV tubes have been purchased and received. This objective has been completed.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Objective 1: The computer tablets are still in use. This part of the objective is complete. The LIMS is currently being implemented in the Laboratory. The Laboratory is in the process of revising worksheet design and logic for the LIMS. We are on schedule to begin user testing September 1st, 2012 and go live with the LIMS on January 1st, 2013. Due to the uncertainty of making the original deadline of the Grant, a grant extension for one year was requested and granted on 12/16/11. The laboratory is certain that the implementation of the LIMS can be accomplished before the new expiration date of 3/31/13.

Objective 2: The efficiency of the Biology section has already been improved due to the implementation of the tablets. The turnaround time has decreased since the beginning of the grant. However, the turnaround time has increased since last progress report due to one of the DNA analysts leaving the Laboratory. Once the LIMS is in operation, the efficiency will continue to increase and the backlog will decrease. The number of samples analyzed per analyst has increased. This objective has been completed.

Objective 3: The staging LIMS has demonstrated a number of management reports utilizing data that is produced, compiled and/or stored by the LIMS and can be utilized in annual Quality Management Audits of the Laboratory. This objective has been completed.

Objective 4: Microsoft Office 2010 Professional Plus has been purchased and installed on all necessary computers. The signature pads, fingerprint readers, label printers, scanners, Adobe Acrobat Professional X, GeneMapper ID-X, Windows 7 upgrade, and all electronic repeater pipettes have been purchased. This objective is completed.

Objective 5: This objective has been completed. The servers were not needed (supplied by the City) and removed with Budget Modification GAN's.

Objective 6: Fundamentals of DNA Typing and Advanced Topics in DNA Typing Books, UV Crosslinker and UV tubes have been purchased and received. This objective has been completed.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Objective 1: The computer tablets are still in use. This part of the objective is complete. The LIMS is currently being implemented in the Laboratory. The Laboratory is still in the process of revising worksheet design and logic for the LIMS. User testing has begun. We expect to go live

on March 1st, 2013. Due to the uncertainty of making the original deadline of the Grant, a grant extension for one year was requested and granted on 12/16/11. The laboratory is certain that the implementation of the LIMS can be accomplished before the new expiration date of 3/31/13.

Objective 2: The efficiency of the Biology section has already been improved due to the implementation of the tablets. The turnaround time has decreased since the beginning of the grant and since the last progress report. Once the LIMS is in operation, the efficiency will continue to increase and the backlog will decrease. The number of samples analyzed per analyst has decreased due to one of the analyst taking on more responsibility for implementing the LIMS and the other analyst training new personnel. This objective has been completed.

Objective 3: The staging LIMS has demonstrated a number of management reports utilizing data that is produced, complied and/or stored by the LIMS and can be utilized in annual Quality Management Audits of the Laboratory. This objective has been completed.

Objective 4: Microsoft Office 2010 Professional Plus has been purchased and installed on all necessary computers. The signature pads, fingerprint readers, label printers, scanners, Adobe Acrobat Professional X, GeneMapper ID-X, Windows 7 upgrade, and all electronic repeater pipettes have been purchased. This objective is completed.

Objective 5: This objective has been completed. The servers were not needed (supplied by the City) and removed with Budget Modification GAN's.

Objective 6: Fundamentals of DNA Typing and Advanced Topics in DNA Typing Books, UV Crosslinker and UV tubes have been purchased and received. This objective has been completed.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Objective 1: Acquire and install a Laboratory Information Management System and computer tablets.

The computer tablets are still in use and the LIMS has been implemented. This objective is complete

Objective 2: The efficiency of the Biology section has already been improved due to the implementation of the tablets. The turnaround time has decreased since the beginning of the grant. Once the LIMS is in operation beginning April 1st, the efficiency will continue to increase and the backlog will decrease. The number of samples analyzed per analyst has decreased due to one of the analyst taking on more responsibility for implementing the LIMS and the other analyst training new personnel. This objective has been completed.

Objective 3: The LIMS has demonstrated a number of management reports utilizing data that is produced, complied and/or stored by the LIMS and can be utilized in annual Quality Management Audits of the Laboratory. This objective has been completed.

Objective 4: Microsoft Office 2010 Professional Plus has been purchased and installed on all necessary computers. The signature pads, fingerprint readers, label printers, scanners, Adobe Acrobat Professional X, GeneMapper ID-X, Windows 7 upgrade, and all electronic repeater pipettes have been purchased. This objective is completed.

Objective 5: This objective has been completed. The servers were not needed (supplied by the City) and removed with Budget Modification GAN's.

Objective 6: Fundamentals of DNA Typing and Advanced Topics in DNA Typing Books, UV Crosslinker and UV tubes have been purchased and received. This objective has been completed.

FINAL REPORT:

Objective 1: Acquire and install a Laboratory Information Management System and computer tablets.

The computer tablets are still in use. This part of the objective is complete. The LIMS has been implemented in the Laboratory. The LIMS has allowed the Tulsa Police Department Forensic Laboratory (TPDFL) to be a paperless lab when we went live on April 1st, 2013. This objective is complete.

Objective 2: Improve efficiency and decrease the case backlog by 10% the first year of operation.

The efficiency of the Biology section has already been improved due to the implementation of the tablets. The turnaround time has decreased from 171 days to 79 days, a 54% decrease. Once the LIMS has been in operation for a year, the efficiency will continue to increase and the backlog will decrease. The number of samples analyzed per analyst has increased from 23 to 17, a 26% decrease. The decrease in samples analyzed per analyst is due to one of the analyst taking on more responsibility for implementing the LIMS and the other analyst training new personnel. This objective has been completed.

Objective 3: Use the data that is produced, compiled, and/or stored by the LIMS system in annual Quality Management audits of the laboratory.

The LIMS has demonstrated a number of management reports utilizing data that is produced, compiled and/or stored by the LIMS and can be utilized in annual Quality Management Audits of the Laboratory. Additionally, the Operations Manager has custom designed management reports to assist the Accreditation/Quality Assurance Manager, Operations Manager, and Laboratory Director in audits. This objective has been completed.

Objective 4: Obtain peripheral software and hardware for the LIMS and additional laboratory equipment and software.

Microsoft Office 2010 Professional Plus has been purchased and installed on all necessary computers. The signature pads, fingerprint readers, label printers, scanners, Adobe Acrobat Professional X, GeneMapper ID-X, Windows 7 upgrade, and all electronic repeater pipettes have been purchased. This objective is completed.

Objective 5: This objective was removed with a Budget Modification GAN.

This objective has been completed. The servers were not needed (supplied by the City) and removed with Budget Modification GAN's.

Objective 6: Obtain reference materials for personnel and laboratory equipment.

Fundamentals of DNA Typing and Advanced Topics in DNA Typing Books, UV Crosslinker and UV tubes have been purchased and received. This objective has been completed.

FY10 Recipient Name: Oregon State Police

Award Number: 2010-DN-BX-K161

Award Amount: \$451,278

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The 2010 Forensic DNA Backlog Reduction Program Grant (Award Number 2010-DN-BX-K161) was awarded to the Oregon Department of State Police Forensic Services Division on September 16, 2010 for the budget period of October 1, 2010 through March 31, 2012. This report will detail progress made toward achieving the objectives as outlined in the project titled:

Increase Capacity of CODIS & DNA Casework Screening, Processing and Analysis and Reduce DNA Casework Back.

Objective 1: To reinitiate and increase capacity of DNA database sample processing in-house (equipment & new methods)

Objective 2: To enhance the capacity of DNA casework screening, processing and analysis (equipment & new methods) to reduce the DNA casework backlog (overtime & supplies)

Objective 3: To provide training and continuing education opportunities to analysts

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective 1:

At the beginning of the award period (October 1, 2010), the CODIS sample backlog was 3,130 samples and our in-house capacity to perform CODIS sample analysis was approximately 687 samples per month. We just completed the renovation of the CODIS unit, and validated equipment and methods for the processing of CODIS samples in-house. In addition, July 1, 2010, we hired an additional Forensic Scientist specifically for CODIS sample processing and analysis. This analyst should complete their training and be authorized to perform CODIS analysis by March 1, 2011.

During this reporting period, we purchased an ABI Gene AMP PCR 9700 system, a printer, and a Qiagen EZ1 Advanced DNA extraction robot. The ABI Gene AMP PCR 9700 system was purchased to replace an old thermal cycler that was broken. The printer and Qiagen EZ1 Advanced robot were placed in the newly remodeled CODIS laboratory space to allow the analyst in the new area easy access to the tools they need to do their job more efficiently and to increase capacity of production.

Objective 2:

At the beginning of this award period (October 1, 2010) the DNA casework backlog was 925 cases. From October through December 2010, we used 462.25 hours of overtime to work on these DNA backlogged cases. This equated to 71 cases being processed and analyzed, and 68 profiles uploaded into CODIS which resulted in 38 hits. Even though the backlog increased at the end of the award period (997 cases), analysts actually increased the number of samples analyzed per analyst per month by 1.9 samples and the total turnaround time (from case received to report distributed) decreased by 30.1 days. The increase in backlog can be attributed to the average number of cases received per month which increased by 8.1 case per month. From January through September 2010 we received on average 138.2 cases/month. From October through December, we received on average 146.3 cases/month. During this period, we also purchased supplies (AmpFLSTR kits, and Qiagen EZ1 Robot DNA extraction kits) to support the DNA backlog casework analysis.

Objective 3:

In November, our CODIS supervisor, in addition to our CODIS administrator, attended the CODIS meeting in Salt Lake City, UT. Another DNA analyst traveled to San Francisco to attend the Applied Biosystems course on advanced HID troubleshooting. Two analysts are slated to attend the American Academy of Forensic Scientists meeting in February.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective 1:

During this reporting period, we purchased a convection oven to be dedicated to drying of CODIS trays. Twenty, eight-drawer file cabinets were also purchased for CODIS. These file cabinets are used to store the FTA CODIS sample cards. An additional 96 well GeneAmp 9700 PCR system was purchased which will be used by both CODIS and DNA casework analysts for sample amplification. This will minimize or eliminate a bottleneck in the amplification step for both CODIS and DNA casework samples. In addition, a wardrobe locker was purchased and placed in a strategic location (between amp hoods and extraction area) to allow for easy access and storage of lab coats. This will assist with minimizing the potential of contamination as analysts will no longer need to walk through other areas of the laboratory to discard their lab coat. This will also be more efficient for analysts as their lab coat will be closer to the area in which they are working.

Objective 2:

For DNA casework, we purchased two Lenovo Thinkpads which are used in the DNA extraction room for note taking. Two backup power supply units were purchased, one for the Qiagen EZ1 advanced instrument and one for the 9700 PCR machine. Three Nikon Coolpix cameras were purchased, two for replacement of old cameras and one as a backup.

At the beginning of this award period (October 1, 2010) the DNA casework backlog was 925 cases. Beginning January 1, 2011 the backlog was 997 cases. From January 1 through June 30, 2011, we used 1630.75 hours of overtime to work on these DNA backlogged cases. This equated to 283 cases being processed and analyzed, 241 profiles uploaded into CODIS resulting in 125 hits. The backlog as of June 30, 2011 had decreased to 871 cases. Analysts increased the number of samples analyzed per analyst per month by 3.46 samples and the total turnaround time (from case received to report distributed) decreased by 15.4 days. During this period, we also purchased supplies (Qiagen EZ1 Robot DNA extraction kits, Quant Duo and ID plus kits, other reagents) to support the DNA backlog casework analysis.

Report Period	Backlog	Cases Worked	Profiles Uploaded	CODIS Hits
Oct. – Dec 2010	925	97	68	38
Jan. – June 2011	997	283	241	125
June 2011 – Dec. 2011	871			

Objective 3:

During this reporting period, we provided four training opportunities to eight analysts. Two analysts attended the American Academy of Forensic Sciences meeting in February. Three analysts attended the Advanced DNA Technical Workshop sponsored by BODEWest. One analyst attended the California Association of Criminalistics conference and two analysts attended a California Criminalistics Institute course on population genetics.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective 1: To reinstate and increase capacity of DNA database sample processing in-house (equipment & new methods)

During this reporting period, we did not purchase any additional equipment for database sample processing. In December, a request for proposals was prepared for the procurement of a liquid handling station. This proposal was recently posted for bids from vendors. However, the state is under a mandatory budget freeze through February which includes a freeze on the purchase of

capitol outlay items. Thus, we will request a project period extension through June 30, 2012 to ensure adequate time for the purchase, receipt and installation of this piece of equipment.

Objective 2: To enhance the capacity of DNA casework screening, processing and analysis (equipment & new methods) to reduce the DNA casework backlog (overtime & supplies)

At the beginning of this award period (October 1, 2010) the DNA casework backlog was 925 cases with 803 being greater than 30 days old. Beginning July 1, 2011 the backlog was 871 cases (748 >30 days). From July 1 through October 31, 2011, we used 632.50 hours of overtime to work on these DNA backlogged cases. This equated to 123 cases being processed and analyzed, 111 profiles uploaded into CODIS resulting in 48 hits. The backlog as of December 31, 2011 had decreased to 854 cases (731 >30 days old). The number of samples analyzed per analyst per month decreased by 6.3 samples/month/analyst to 40.4. This is probably due to several changes in personnel during that time frame. One analyst (the CODIS Administrator) was temporarily assigned as the DNA unit supervisor and a second analyst was assigned as the CODIS administrator. In addition, two analysts completed training and started casework during this reporting period. It is expected that during the first few months, these analysts may have a lower efficiency throughput than those analysts with more experience. The total turn around time (case received to report distributed) increased by 4.2 days with the analytical turn around time remaining the same. During this reporting period, we did not purchase any supplies.

Report Period	Backlog	Cases worked	Profiles Uploaded	CODIS Hits
Oct. – Dec. 2010	925 (10/1/10) 803 > 30 days	71	68	38
Jan. – June 2011	997 (1/1/11) 835 > 30 days	283	241	125
July – Dec. 2011	871 (7/1/11) 748 > 30 days 854 (12/31/11) 731 > 30 days	123	111	48
Jan. – March 2012				

Objective 3: To provide training and continuing education opportunities to analysts

During this reporting period, we provided four training opportunities to six analysts. Two analysts attended the International Symposium on Human Identification Conference and two attended the California Association of Criminalistics Conference. Another analyst attended the Green Mountain Conference and one went to the Future Trends in Forensic DNA Technology meeting.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period, we requested two project period extensions. Both were to provide adequate time for the procurement of a liquid handling station. Both requests were approved taking the new project period end date to September 30, 2012. The extensions will allow adequate time for the purchase, receipt and installation of a liquid handling station.

Objective 1: To reinstate and increase capacity of DNA database sample processing in-house (equipment & new methods)

A request for proposals (RFP) for the liquid handling station was posted in March 2012.

However, this initial request for bids resulted in a failed solicitation. The RFP was reposted for bids from vendors in May. Multiple proposals were received, evaluated and a contract awarded.

The liquid handling station has been purchased and we anticipate receipt of the liquid handling station to occur in August.

Objective 2: To enhance the capacity of DNA casework screening, processing and analysis (equipment & new methods) to reduce the DNA casework backlog (overtime & supplies)

During this reporting period, we did not use grant funds to purchase supplies or for overtime to work DNA backlog cases.

At the beginning of this award period (October 1, 2010) the DNA casework backlog was 925 cases with 803 being greater than 30 days old. The backlog as of June 30, 2012 had decreased to 603 cases with 444 cases being greater than 30 days old. At the end of this reporting period, the average number of samples analyzed per analyst per month was 41.4. The total turn around time (case received to report distributed) decreased by 29.3 days with the analytical turn around time increasing by approximately six days.

Report Period	Backlog	Cases worked	Profiles Uploaded	CODIS Hits
Oct. – Dec. 2010	925 (10/1/10) 803 > 30 days	71	68	38
Jan. – June 2011	997 (1/1/11) 835 > 30 days	283	241	125
July – Dec. 2011	871 (7/1/11) 748 > 30 days 854 (12/31/11) 731 > 30 days	123	111	48
Jan. – June 2012	603 (6/30/12) 444 > 30 days	0	0	7
Cumulative		477	420	218

Objective 3: To provide training and continuing education opportunities to analysts

During this reporting period, we provided an eight hour training course on paternity statistics to all our DNA analysts on site at the Portland Metro laboratory.

FINAL REPORT: October 1, 2010 through September 30, 2012

Objective 1: To reinitiate and increase capacity of DNA database sample processing in-house (equipment & new methods)

The liquid handling station was purchased, shipped and received in the DNA unit on 9/4/12. The instrument is current being installed and will be validated in the next few months.

Objective 2: To enhance the capacity of DNA casework screening, processing and analysis (equipment & new methods) to reduce the DNA casework backlog (overtime & supplies)

During this reporting period (July to September 2012), we did not use grant funds to purchase supplies or for overtime to work DNA backlog cases. For the entire project period (October 1, 2010 through September 30, 2012), we worked a total of 477 cases, with 420 profiles uploaded into the CODIS database which resulted in 218 CODIS hits.

At the beginning of this award period (October 1, 2010) the DNA casework backlog was 925 cases with 803 being greater than 30 days old. The backlog as of September 30, 2012 had decreased to 505 cases with 390 cases being greater than 30 days old. At the end of this reporting period, the average number of samples analyzed per analyst per month was 43.6. The total turn-around time (case received to report distributed) decreased by 48.8 days with the analytical turn-around time increasing by approximately 7.6 days.

Report Period	Backlog	Cases worked	Profiles Uploaded	CODIS Hits
Oct. – Dec. 2010	925 (10/1/1)) 803 > 30 days	71	68	38
Jan. – June 2011	997 (1/1/11) 835 > 30 days	283	241	125
July – Dec. 2011	871 (7/1/11) 748 > 30 days 854 (12/31/11) 731 > 30 days	123	111	48
Jan. – June 2012	603 (6/30/12) 444 > 30 days	0	0	7
July – Sept. 2012	505(9/30/12) 390>30 days	0	0	0
Cumulative		477	420	218

Objective 3: To provide training and continuing education opportunities to analysts
During this reporting period, we did not provide any training opportunities. For the total grant project period, we provided continuing education for all our DNA analysts. All monies in this budget category have been expended.

FY10 Recipient Name: Allegheny County Forensic Lab Division, Pennsylvania

Award Number: 2010-DN-BX-K065

Award Amount: \$283,541

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Qiagen system acquisition & validation

Goal 2: Quantitation chemistries validation

~~Goal 3: Amplification chemistries validation~~

~~PowerPlex16 HS and Mini-STR chemistries will be compared & used in conjunction with the samples used by the Qiagen system & the quantitation products. (removed via Budget Modification GAN, approved November 2012)~~

Goal 4: Software Customization

Enhanced 7500 software is necessary to investigate the data generated by the Qiagen and quantitation validation studies mentioned above. ~~Additional consultation with Cybergenetics (utilizing TrueAllele software) will take place for data generated from the amplification chemistries validation. (removed via Budget Modification GAN, approved November 2012)~~

Goal 5: Capacity Enhancement & Backlogged Casework

Since particular vendors already exist in the County's approved network of vendors, the next reporting period will entail the ordering and anticipated acquisition of two (2) freezers, two (2) autoclaves, three (3) vortex mixers, ~~two (2) four (4) five (5) microcentrifuges~~, three (3) additional CODIS workstations, an additional Touch DNA workspace, a subscription to the "Forensic Science International: Genetics" journal, and two (2) additional GMIDX workstations. (added via Budget Modification GAN, approved November 2012)

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: The laboratory is in the beginning stages of accumulating quotes & securing additional information from Qiagen necessary for our Purchasing Agent to place Qiagen in the County's network of vendors so that we may begin making supply & equipment purchases. No validation will begin until all equipment & supplies have been secured. The Forensic Biology Unit will meet in the next few weeks to prepare a strategy for performing this validation.

Goal 2: Until supply funds from this laboratory's 2009 Backlog Reduction Grant are spent (at this time they are not), no purchases of Applied Biosystem's Duo Quantitation product or Promega's Plexor Quantitation product can be purchased.

No activity has occurred in this task for this grant at this time.

Goal 3: Since validation has not begun with the Qiagen & quantitation chemistries/supplies & supplies can't be purchased at this time due to restrictions from our 2009 grant, no activity has occurred in this task for this grant at this time.

Goal 4: Since no activity has occurred regarding the validation studies mentioned above, no activity has occurred in this task for this grant at this time.

Goal 5: Since particular vendors already exist in the County's approved network of vendors, the next reporting period will entail the ordering and anticipated acquisition of two (2) freezers, two (2) autoclaves, three (3) vortex mixers, and two (2) microcentrifuges.

No overtime can be earned until validation begins. Casework analysis (i.e., casework overtime) can only begin (utilizing the above-mentioned chemistries) after validation is complete & approved for use; it must also be noted that casework analysis on backlogged cases can't begin until supply funds are spent in our 2009 grant (which has not happened to date).

As an added note, it was observed that of the 31 DNA reports issued during this reporting period, 14 reports (45%) had an item that had been submitted to the lab in the year 2009 or earlier. This observation may explain the increase in turnaround time.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: The Qiagen system has been acquired. Basic training is being scheduled for July 2011. No validation will begin until training has been completed. The Forensic Biology Unit will meet in the next reporting period to prepare a strategy for performing this validation.

Goal 2: Until supply funds from this laboratory's 2009 Backlog Reduction Grant are spent (at this time they are not), no purchases of Applied Biosystem's Duo Quantitation product or Promega's Plexor Quantitation product can be purchased.

No activity has occurred in this task for this grant at this time.

Goal 3: Since validation has not begun with the Qiagen & quantitation chemistries/supplies & supplies can't be purchased at this time due to restrictions from our 2009 grant, no activity has occurred in this task for this grant at this time.

Goal 4: Since no activity has occurred regarding the validation studies mentioned above, no activity has occurred in this task for this grant at this time.

Goal 5: Two (2) freezers & two (2) autoclaves have been acquired. The freezers are operational & will be used for long-term storage of DNA trays. The autoclaves have been acquired but not put into use yet, as physical space is limited & must be adjusted to accommodate them. Three (3) vortex mixers and two (2) microcentrifuges have yet to be acquired.

No overtime can be earned until validation begins. Casework analysis (i.e., casework overtime) can only begin (utilizing the above-mentioned chemistries) after validation is complete & approved for use; it must also be noted that casework analysis on backlogged cases cannot begin until supply funds are spent in our 2009 grant (which has not happened to date).

As an added note, features were implemented into the LIMS software that greatly aided in the accumulation of performance data required for reporting. Some data had been accumulated by hand because LIMS lacked customized features at this time. However, some features of the BEAST Management Report product are still challenging to use (i.e., not intuitive when it comes to entering data in certain fields). Adjustments had to be made to metrics, particularly the number of backlog cases at the end of each reporting period. These adjustments (across ALL reporting periods for this grant) can be seen in the metrics submitted with this progress report.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Validation has begun on the Qiagen system.

Goal 2: Since supply funds in the 2009 Backlog Reduction Program have been exhausted, supplies for this step have been purchased. Currently, this step is being used in conjunction with the Qiagen system study.

Goal 3: PowerPlex16 HS and Mini-STR chemistries will be compared & used in conjunction with the samples used by the Qiagen system & the quantitation products.

Although validation has begun with the Qiagen & quantitation chemistries/supplies, no activity has occurred in this task for this grant at this time.

Goal 4: Enhanced 7500 software is necessary to investigate the data generated by the Qiagen and quantitation validation studies mentioned above.

Additional consultation with Cybergenetics (utilizing TrueAllele software) would take place for data generated from the amplification chemistries validation.

Since no activity has occurred regarding the amplification validation studies mentioned above, no activity has occurred in this task for this grant at this time.

Goal 5: Two (2) freezers continue to be operational and are being used for long-term storage of DNA trays. The two (2) autoclaves have been successfully installed & are currently being used. Three (3) vortex mixers have been received & are being used. The two (2) microcentrifuges have yet to be acquired; the County is currently addressing this.

A small amount of overtime funds have been consumed, however only for the purpose of validation at this time.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Validation has begun & continues on the Qiagen system.

Goal 2: Purchasing of supplies for Qiagen validation is the only fund expenditure happening at this time. Quant chemistry validation is anticipated to occur during the next 6 month reporting period.

Goal 3: PowerPlex16 HS and Mini-STR chemistries will be compared & used in conjunction with the samples used by the Qiagen system & the quantitation products. Although validation has begun with the Qiagen system, no activity has occurred in this task for this grant at this time.

Goal 4: Enhanced 7500 software is necessary to investigate the data generated by the Qiagen and quantitation validation studies mentioned above.

Additional consultation with Cybergenetics (utilizing TrueAllele software) would take place for data generated from the amplification chemistries validation.

Since no activity has occurred regarding the amplification validation studies mentioned above, no activity has occurred in this task for this grant at this time.

Goal 5: Two (2) freezers continue to be operational and are being used for long-term storage of DNA trays. The two (2) autoclaves have been successfully installed & are currently being used.

Three (3) vortex mixers have been received & are being used. The two (2) microcentrifuges have yet to be acquired, as wrong product numbers (along with wrong dollar amounts) were stated on the grant application. With the Qiagen validation underway, this means that manual extractions will be decreasing in use in the future, thus possibly rendering the use of microcentrifuges unnecessary. It was decided to wait and see if these items will really be necessary; if not, action may be taken to repurpose these funds. A small amount of overtime funds have been consumed, however only for the purpose of validation at this time.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: Validation has begun & continues on the Qiagen system. Optimization/Sensitivity studies were completed in December. Preparations were being made to study mixtures, contamination, and casework-like samples next.

Goal 2: Purchasing of supplies for Qiagen validation comprised a majority of the fund expenditure during this period. Quant chemistry validation was delayed during this reporting period due to a robotic tip issue and attention diverted to prepare for two (2) audits that were conducted during this reporting period (one during the GAP analysis for ISO in September and an external audit in December for the FBI). Routine maintenance was performed on the Biomeks but they failed a performance evaluation conducted after this maintenance. This failure was due to issues with pipette tips; substitute tips had to be researched, as the tips that had been reliable in use were no longer being made.

Goal 3: A GAN was submitted and approved during this reporting period to update the goals and modify the budget for this award. As part of this GAN, the validation of the PowerPlex16 HS and Mini-STR chemistries was removed from this project. The funds from this study were reallocated for the purchase of the following: an additional Qiagen EZ1 system; additional centrifuges; additional CODIS and GMIDX workstations; an additional Touch DNA workspace; supplies, consumables, and overtime to be used for backlogged casework; and a subscription to the "Forensic Science International: Genetics" journal.

As a result, the goal of validating the amplification chemistries is no longer applicable to the 2010 backlog reduction grant, as the 2010 grant will only be used to validate up to and including quantitation studies.

Goal 4: Enhanced 7500 software is necessary to investigate the data generated by the Qiagen and quantitation validation studies mentioned above. Due to the delay mentioned in Goal 2 above, this software is anticipated to be purchased during the next reporting period.

Also as a result of the GAN mentioned in Goal 3 above, additional consultation with Cybergenetics (utilizing TrueAllele software) that was to take place for data generated from the amplification chemistries validation has been removed from this project. These funds were reallocated for the items mentioned under Goal 3 above.

Goal 5: Two (2) freezers continue to be operational and are being used for long-term storage of DNA trays. The two (2) autoclaves have been successfully installed & are currently being used. Three (3) vortex mixers have been received & are being used.

With the GAN mentioned in Goal 3 above, funds were compiled to purchase two (2) small and two (2) large centrifuges. All four (4) centrifuges were acquired & will be utilized in both validation & casework. The Touch DNA hood was purchased, and research is being conducted on how to go about obtaining an institutional subscription to FSI: Genetics.

It should be noted that although the hardware for the CODIS workstations has been acquired, the workstations still need to be formatted & connected to the CODIS network for CODIS use. This will take place during the next reporting period.

The acquisition of the second Qiagen EZ1 system is pending at this time.

With the Qiagen validation underway, it was determined that although manual extractions will be decreasing in use in the future, it would not be possible to completely eliminate manual sample processing from the DNA Unit's options for casework. A manual option will need to be available in the event the DNA unit experiences issues with the robotic equipment that would render it unusable (e.g., maintenance issue, supply shortage, etc.).

Overtime funds were being used during this reporting period for validation, serology screening of samples in cases 30 days or older & the subsequent writing of those reports, and DNA work (i.e., tray review prior to DNA report writing & DNA report writing).

No funds have been used at this time to purchase supplies for casework sample processing.

As an additional note, a robotic method was being developed during this reporting period to robotically transfer DNA extracts from the Qiagen tubes into the DNA trays. Supplies for this method were not funded with monies from this grant but this method will be vital to save time & keep the analysts from manually pipetting numerous samples into tray positions.

PROGRESS REPORT 6: January 1, 2013 – March 31, 2013

Goal 1: The validation of the Qiagen system is nearly completed. Samples for the mixtures study, the contamination study, and the casework-like samples study were processed during the reporting period. The data will be analyzed in the next quarter, and a validation report will be generated before the Qiagen is implemented into casework.

The second Qiagen system was acquired and installed during this reporting period. This second system will be performance checked once the validation of the first Qiagen system is completed.

Goal 2: The remaining supplies necessary for the validation of the quantitation chemistries were acquired during this reporting period, and the validation was begun. Once the validation is completed, the ACOME will decide whether to transition to the use of Quantifiler Duo or to continue to use Plexor HY kits for quantitation purposes.

Goal 3: N/A

Goal 4: Purchase of the enhanced 7500 software was completed during this reporting period.

The installation of the software and implementation into casework will take place after the completion of the validation of the laboratory's new ABI 3500 Genetic Analyzer under the 2011 DNA Backlog Reduction Grant.

Goal 5: Two (2) freezers continue to be operational and are being used for long-term storage of DNA trays. The two (2) autoclaves have been successfully installed & are currently being used. Three (3) vortex mixers have been received & are being used.

With the GAN mentioned in Goal 3 above, funds were compiled to purchase two (2) small and two (2) large centrifuges. Due to residual funds we were able to acquire three (3) small and two (2) large centrifuges. Please note that under Goal 5 in the previous progress report, we incorrectly reported that only four (4) centrifuges were acquired when in fact five centrifuges were acquired. The three (3) small centrifuges have been implemented as a part of validation and casework. The two (2) large centrifuges will be put into operation once the ACOME receives the vivicon concentrating devices for them.

The Touch DNA hood was installed and has been implemented into casework.

An online subscription to FSI: Genetics was successfully acquired, and each member of the Forensic Biology section has access to this literature.

The three (3) additional CODIS workstations have been acquired, the workstations have been formatted and are connected to the CODIS network. The two (2) additional Genemapper ID-X workstations have been acquired and are being formatted by the ACOME IT department before being implemented into the workflow.

Overtime funds were being used during this reporting period for validation, serology screening of samples in cases 30 days or older & the subsequent writing of those reports, and DNA work (i.e., tray review prior to DNA report writing & DNA report writing).

The remaining budgeted casework supplies in the grant were purchased during the reporting period and were being used for casework sample processing.

A robotic method was completed during this reporting period to robotically transfer DNA extracts from the Qiagen tubes into the DNA trays. Supplies for this method were not funded with monies from this grant but this method will be vital to save time & keep the analysts from manually pipetting numerous samples into tray positions.

FINAL REPORT:

Goal 1: Two Qiagen EZ1 systems were acquired and installed through the grant program. A validation study was conducted on one of the EZ1 systems during the project period. In the two months since the end of the grant project, the data from the validation has been analyzed, and a validation report is currently being generated at the time of this writing. The validation report will be submitted for approval by the technical leader, and then the instrument will be implemented into casework. The DNA analysts who did not participate in the validation study will be trained to use the EZ1. The Qiagen EZ1 will be utilized for extraction of blood, saliva, and Touch DNA samples and will aid with priority casework processing. It was determined that although manual extractions will be decreasing in use in the future, it would not be possible to completely eliminate manual sample processing from the DNA Unit's options for casework. A manual option will need to be available in the event the DNA unit experiences issues with the robotic equipment that would render it unusable (e.g., maintenance issue, supply shortage, etc.). However, the Qiagen EZ1 system will now take priority over manual extraction processing. The second Qiagen EZ1 system that was purchased will be performance checked once the validation of the first Qiagen system is approved. Once the performance check is completed, then this instrument too will be implemented into casework.

Goal 2: The supplies necessary to conduct a validation study of quantitation chemistries were acquired through the grant program. The validation study that was still in progress at the end of the grant period consisted of the comparison of Quantifiler Duo chemistries with Plexor HY chemistries. Based on the results of the validation study, the ACOME will decide whether to transition to the use of Quantifiler Duo or to continue to use Plexor HY kits for quantitation purposes. In the two months since the end of the grant project, that data from the study has been generated for review. Preliminary findings show that Plexor offers much greater sensitivity than Quantifiler Duo. This indicates that the ACOME may continue using Plexor chemistries, because determining an accurate amount of DNA is vital to downstream processing,

Goal 3: A GAN was submitted and approved during this grant to update the goals and modify the budget for this award. As part of this GAN, the validation of the PowerPlex16 HS and Mini-STR chemistries was removed from this project. The funds from this study were reallocated for the purchase of the following: an additional Qiagen EZ1 system; additional centrifuges;

additional CODIS and GMIDX workstations; an additional Touch DNA workspace; supplies, consumables, and overtime to be used for backlogged casework; and a subscription to the “Forensic Science International: Genetics” journal.

As a result, the goal of validating the amplification chemistries was no longer applicable to the 2010 backlog reduction grant. The 2010 DNA Backlog Reduction grant was only be used to validate up to and including quantitation studies.

Goal 4: Purchase of the enhanced 7500 software was completed during this reporting period. The installation of the software and implementation into casework will take place after the completion of the validation of the laboratory’s new ABI 3500 Genetic Analyzer under the 2011 DNA Backlog Reduction Grant.

Also as a result of the GAN mentioned in Goal 3 above, additional consultation with Cybergenetics (utilizing TrueAllele software) that was to take place for data generated from the amplification chemistries validation was removed from this project. These funds were reallocated for the items mentioned under Goal 3 above.

Goal 5: The following capacity enhancements were acquired and put into service in the Forensic Biology section of the ACOME as a result of this program:

- Two (2) additional freezers for long-term storage of DNA trays
- Two (2) autoclaves for sterilization of validation and casework supplies
- Three (3) vortex mixers for validation and casework processing
- Three (3) small and two (2) large centrifuges for validation and casework processing
- An additional Touch DNA workspace for casework processing
- A one-year online subscription to Forensic Science International: Genetics
- Three (3) additional CODIS workstations
- Two (2) additional Genemapper ID-X workstations

Casework supplies were purchased and used during this grant program for DNA sample processing, and Overtime funds were utilized during the grant program for validation, serology screening of samples in cases 30 days or older & the subsequent writing of those reports, and DNA work (i.e., tray review prior to DNA report writing & DNA report writing). A total of 134 cases were worked under this grant program utilizing casework supplies and overtime funds. There was no reportable CODIS data prior to July 2012 under this program, because the Forensic Biology section was still consuming supplies from the 2009 DNA Backlog Reduction Grant up until that time. Additionally, supplies under the 2010 DNA Backlog Reduction Program are still being consumed for casework as of this report writing. The ACOME anticipates that these supplies will last through the first quarter of 2014. In the two months since the end of the grant period, there have been an additional 11 CODIS hits that have resulted from program funded supplies and overtime.

FY10 Recipient Name: Pennsylvania State Police

Award Number: 2010-DN-BX-K053

Award Amount: \$1,110,575

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To increase capacity of the DNA lab by purchase of automated equipment.

Goal 2: To increase capacity of the DNA lab by purchase of supplies approved in this budget needed to conduct the validation.

Goal 3: To increase capacity of the DNA lab by purchase of audio visual equipment approved in this budget needed to conduct training for the staff.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: Progress – In this reporting period the lab sent out requests for bids to purchase one robotic workstation, automated extraction systems and genetic analyzer. This goal is still in progress.

Goal 2: Progress Oct-Dec 2010 – In this reporting period the lab sent out requests for bids to purchase the amplification kits and quantitation kits that will be evaluated during this project. This goal is still in progress.

Goal 3: Progress Oct-Dec 2010 – In this reporting period the lab sent out requests for bids to purchase the equipment. This goal is still in progress.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: During this reporting period, the laboratory received and installed the automated extraction systems. Validation work will begin in August 2011. The genetic analyzer was received and installed. Initial testing began on the genetic analyzer using the current kits used by the laboratory. Further work will be conducted during the next reporting period to evaluate the new kits being validated under this award using this instrument.

Goal 2: Supplies requested under this award were received and will be used for the work outlined in this award. Validation of these kits will begin in August 2011.

Goal 3: The audio visual equipment was received and installed. This goal is complete.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: During this reporting period, the laboratory received and installed the automated extraction systems. Validation work was completed during this period. The genetic analyzer was received and installed. Initial testing began on the genetic analyzer using the current kits used by the laboratory and the review of the work complete. The additional work planned for this reporting period to evaluate the new kits also being validated under this award was not undertaken. Due to the various delays and issues with the validation service, coupled with the demand for backlog reduction, staff was unable to be available to conduct this work. A GAN was submitted and approved to request that funds previously approved for additional outside validation services be re-allocated for equipment. The additional equipment is necessary to address an increase in complement of forensic scientists that require bench work analytical areas, computer equipment, as well as office furniture. It was determined that being able to accommodate additional staff was a more pressing need than seeking another validation service at this time.

Goal 2: Supplies requested under this award were received and will be used for the work outlined in this award. Validation of these kits began in August 2011 and the validation work completed during this period. Staff received training in both the theoretical and practical aspects of these kits. Practical exercises and competency testing will be conducted during the next reporting period. It is anticipated the new kits will be approved for implementation during the next reporting period.

Goal 3: The audio visual equipment was received and installed. This goal is complete. Since the GAN was approved, additional equipment was requested to accommodate the complement increase. Therefore, this goal has changed and requisitions for additional items of equipment are underway.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: The laboratory received and installed the automated extraction systems. Validation work was completed. The genetic analyzer was received and installed. Initial testing began on the genetic analyzer using the current kits used by the laboratory and the review of the work complete. The additional work planned for this reporting period to evaluate the new kits also being validated under this award was not undertaken. Due to the various delays and issues with the validation service, coupled with the demand for backlog reduction, staff was unable to be available to conduct this work. A GAN was submitted and approved to request that funds previously approved for additional outside validation services be re-allocated for equipment. The additional equipment is necessary to address an increase in complement of forensic scientists that require bench work analytical areas, computer equipment, as well as office furniture. It was determined that being able to accommodate additional staff was a more pressing need than seeking another validation service.

During this reporting period, requisitions were approved and the equipment requested to accommodate new analysts was received and placed into use. Due to lower costs than expected, additional equipment will be requested. Due to the time frames involved in purchasing, a GAN was submitted requested to extend the project by 60 days.

Goal 2: Supplies requested under this award were received and will be used for the work outlined in this award. Validation of these kits began in August 2011 and the validation work completed. Staff received training in both the theoretical and practical aspects of these kits. Practical exercises and competency testing was completed during this period. Due to the casework backlog and need to train the newly hired analysts, the approval to begin using the new kits was delayed. It is anticipated the new kits will be approved for implementation by the end of the project.

Goal 3: The audio visual equipment was received and installed. This goal is complete. Since the GAN was approved, additional equipment was requested to accommodate the complement increase. Therefore, this goal was changed. Approved purchase orders were received and the additional equipment is being received and placed into use during this reporting period.

FINAL REPORT:

Goal 1: The laboratory received and installed the automated extraction systems. Validation work was completed. The genetic analyzer was received and installed. Initial testing began on the genetic analyzer using the current kits used by the laboratory and the review of the work complete. The additional work planned for this reporting period to evaluate the new kits also being validated under this award was not undertaken. Due to the various delays and issues with the validation service, coupled with the demand for backlog reduction, staff was unable to be available to conduct this work. A GAN was submitted and approved to request that funds previously approved for additional outside validation services be re-allocated for equipment. The additional equipment is necessary

to address an increase in complement of forensic scientists that require bench work analytical areas, computer equipment, as well as office furniture. It was determined that being able to accommodate additional staff was a more pressing need than seeking another validation service.

During this reporting period, requisitions were approved and the equipment requested to accommodate new analysts was received and placed into use. Due to lower costs than expected, additional equipment will be requested. Due to the time frames involved in purchasing, a GAN was submitted requested to extend the project by 60 days.

During this reporting period, a GAN was approved to extend the project period. The additional equipment was purchased and received. This goal is complete.

Through this award, we were able to meet our goal of increasing the capacity of the laboratory by purchasing equipment. During this project period, the laboratory staffing increased significantly which doubled the number of analysts. The laboratory also underwent a departmental reorganization. This reduced the number of experienced analysts as they moved into management positions and removed from bench work. Significant time and resources were needed by the independently qualified analysts to train the newly hired analysts. This impacted their ability to focus on casework analysis, validation projects, and cross training in the projects outlined in this award. However, this award significantly increased the laboratory's capacity by increasing bench work analytical areas, computer equipment, and office furniture for the staffing increase. This allowed for more analyst workspaces and enabled the training of new analysts.

Goal 2: Supplies requested under this award were received and will be used for the work outlined in this award. Validation of these kits began in August 2011 and the validation work completed. Staff received training in both the theoretical and practical aspects of these kits. Practical exercises and competency testing was completed during the previous period. Due to the casework backlog, laboratory reorganization, and the need to train a significant number of newly hired analysts, the approval to begin using the new kits was delayed. It was anticipated the new kits would be approved for implementation by the end of the project. During this reporting period, emphasis was placed on reducing the casework backlog. All projects and training were delayed in order to focus as many qualified analysts on backlog cases. At the end of the project, we are awaiting approval to implement the new kits and anticipate meeting this objective in early 2013. As this project period ended, the casework backlog was reduced despite an annual increase in casework submissions from 2010 to present. Without this award, the backlog would have continued to increase. During this project period, there was a significant increase in the turnaround time of almost 100 days. Without this award, the turnaround time would have continued to increase as cases remained unassigned instead of decreasing back to the previous level. During this award, the turnaround time was also affected by case prioritization. In order to process cases from violent offenses, evidence submitted from property crimes remained unassigned and thus increased the overall turnaround time. This prioritization was necessitated due to an insufficient number of qualified analysts. By the end of this award, the number of qualified analysts increased significantly. This allowed the laboratory to resume analysis on property crimes and reduce the number of unassigned cases.

Goal 3: The audio visual equipment was received and installed. This goal is complete. Since the GAN was approved, additional equipment was requested to accommodate the complement increase. Therefore, this goal was changed. Approved purchase orders were received and the additional equipment is being received and placed into use during the previous reporting period. During this award, this equipment was used extensively during the training sessions. It was used to discuss validations projects, outline training, and review results.

FY10 Recipient Name: City of Philadelphia, Pennsylvania

Award Number: 2010-DN-BX-K114

Award Amount: \$968,799

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

GOAL 1:

To provide overtime for approximately 30 forensic scientists to dedicate an additional 10% of their time to the screening, analysis and technical review of cases for DNA ~~and to technically review the outsourced cases~~, prepare reports and upload the probative results to CODIS. It is expected that at least 348 backlogged cases would be analyzed during the course of this grant.

Note: Goal modified under GAN #5.

GOAL 2:

~~To contract a vendor laboratory to analyze prescreened and screened backlogged cases containing potential biological evidence. The funding is to be used to outsource approximately 200 sexual assault cases for prescreening and DNA analysis.~~ This goal was removed under GAN #5.

GOAL 3:

To increase capacity of the DNA lab by purchase of automated equipment and additional equipment needed for routine analysis. *Note: Under GANs #5, #7 and #12 the equipment being requested was changed to the following items.*

Objective A: AB 3500xl Genetic Analyzer HID – Added GAN 5

Objective B: Desktop computers x 11 – Original request

Objective C: Cannon 5000EN Copier – Original request

Objective D: Franek UPS for AB 3500xl – Added GAN 5

Objective E: Qualtrax Computer Server – Added GAN 7

Objective F: Life Technologies 7500 Real Time qPCR – Added GAN 7

Objective G: Freezer Lab - 30C Upright - Cat # 22 285651 – Added GAN 12

Objective H: Refrigerator Lab 29 CuFt - Cat# 13 991 130 – Added GAN 12

Objective I: Centrifuge Eppendorf Model 5424 – Added GAN 12

Objective J: Thermomixer R W/24x1.5ml – Added GAN 12

Objective K: Powershot G15 Camera-Accessories – Added GAN 12

Objective L: Desktop Computers x10 – Added GAN 12

GOAL 4:

~~To contract C. S. Tomsey Forensic consulting to conduct on-site and off-site peer reviews of the Department's Criminalistics and DNA sections as well as assess the staffing of the sections. In addition, the consultant will assist in grant management and development. Note: This goal removed through GAN #5~~

GOAL 5:

~~To purchase supplies to process the 348 backlog cases to be analyzed in-house. Note: Goal modified with budget modification and Scope GANs approved in Jan-Jun 2011 reporting period. This goal was removed under GAN #12.~~

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

GOAL 1:

PROGRESS October 1, 2010 to December 31, 2010:

The laboratory is still utilizing funding under the 2009 DNA Forensic Backlog Reduction Program, consequently, there was no action during this period using funding from the 2010-DN-BX-K114 grant.

GOAL 2:

PROGRESS October 1, 2010 to December 31, 2010:

The laboratory is still utilizing funding under the 2009 DNA Forensic Backlog Reduction Program for outsourcing cases, consequently, there was no action during this period. The laboratory intends to re-evaluate their backlog situation and submit a GAN reducing the funding originally requested since the working backlog was reduced utilizing funding under the 2009 DNA Backlog Reduction Program.

GOAL 3:

PROGRESS October 1, 2010 to December 31, 2010:

Estimates are currently being obtained for the following equipment:

1. Crime Lite Crimescope with mounting arm
2. Nikon 24.5 Megapixel Camera
3. Nikon Cool Pix
4. Desktop computers
5. Cannon 5000EN Copier
6. Channel multipipet
7. Repeater Stream Pipette
8. Charging Stand for Stream
9. Fisher Thermo mixer
10. Thermoblock 24x1.5ml
11. Thermoblock 24 x 2 ml
12. Model 5424 Centrifuge
13. Magnifying Glasses

GOAL 4:

PROGRESS October 1, 2010 to December 31, 2010:

C. S. Tomsey Forensic Consulting is currently completing the contract under the 2009 DNA Forensic Backlog Reduction Program. Arrangements have been made to continue this contract into the 2010 DNA Backlog Reduction Grant period.

GOAL 5:

PROGRESS October 1, 2010 to December 31, 2010:

Once the 2009 DNA Backlog Reduction Grant period is completed on March 31, 2011, the laboratory will proceed with the purchase for the supplies for the overtime cases under this grant.

PROJECT DELAYS:

Special conditions 24 and 25 under this grant place restrictions on the use of \$569,438 of the 2010 award. These restrictions apply to the Supplies category (items 1 and 13) and the Contracts/Consultants category. The laboratory intends to proceed with the purchase of all items under the supply category and the Consultant/contracts category upon the completion of the 2009 grant in March of 2011.

The laboratory is currently undergoing a new directorship. This individual will be starting January 24, 2011. The laboratory is expecting to re-evaluate its needs under the new directorship and submit a GAN re-allocating funding to more appropriate needs. Due to the Philadelphia City fiscal restraints and cutbacks to the Philadelphia Police Department, the laboratory will not be able to retain the new hires under the 2009 grant funding. Consequently, the laboratory expects to re-allocate funds under the 2010 grant for salaries to retain these individuals.

ACCOMPLISHMENTS Oct 2010 to December 2010:

None to date.

PERFORMANCE METRICS:

There was a decrease of 52 days in the turnaround time since the beginning of this grant until the end of this progress report period. This is largely due to the funding from the FY 2009 DNA Backlog Reduction Grant. It is expected we will begin utilizing from this grant beginning in April 2011.

Backlog forensic cases is calculated for October 1, 2010 as a combination of the backlog in the Criminalistics Section (2635 cases) plus the backlog in the DNA Section (487 cases) for a total of 3122 cases. The Criminalistics Section does the pre-screening of biological cases.

Backlog forensic cases is calculated for December 31, 2010 as a combination of the backlog in the Criminalistics Section (2327 cases) plus the backlog in the DNA Section (374 cases) for a total of 2701 cases.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

GOAL 1:

PROGRESS January 1, 2011 to June 30, 2011:

The Laboratory utilized \$175,708.55 of the \$289,261.44 allotment in the Personnel category for overtime. By consolidating cases and using batch processing methods, the laboratory was able to process approximately 1191 cases in some manner on overtime during this reporting period using funding from the 2010-DN-BX-K114 grant.

GOAL 2:

PROGRESS January 1, 2011 to June 30, 2011:

The Laboratory re-evaluated its backlog situation and determined that with the backlog reductions achieved due to overtime funded under this grant, the laboratory would be better served by increasing its capacity with equipment purchases instead of outsourcing cases. The laboratory submitted GAN# 5 on April 29, 2011 to eliminate outsourcing under this grant. Under GAN #5 there are no monies allotted to outsource cases.

GOAL 3:

PROGRESS Jan 1, 2011 to June 30, 2011:

Requests to purchase the following equipment were submitted to the procurement office on July 14, 2011:

1. AB 3500xl Genetic Analyzer HID x 2

Requests to purchase the following equipment are being prepared and will be submitted to the procurement office by the end of August 2011.

1. Desktop Computers x 11
2. Cannon 5000EN Copier
3. Franek UPS for AB 3500xl x 2

GOAL 4:

PROGRESS Jan 1, 2011 to June 30, 2011:

This item was removed from the grant under GAN#5. The consultant services are no longer needed.

GOAL 5:

PROGRESS Jan 1, 2011 to June 30, 2011:

The purchase of supplies requested under this grant were delayed to allow the current supplies on hand to be utilized before additional supplies are ordered. It is planned to purchase these supplies in August 2011.

PROJECT DELAYS:

Special conditions 24 and 25 under this grant place restrictions on the use of \$569,438 of the 2010 award. These restrictions apply to the Supplies category (items 1 and 13) and the Contracts/Consultants category. The laboratory intends to proceed with the purchase of all items under the supply category and the Consultant/contracts category upon the completion of the 2009 grant in March of 2011.

The laboratory is currently undergoing a new directorship. This individual will be starting January 24, 2011. The laboratory is expecting to re-evaluate its needs under the new directorship and submit a GAN re-allocating funding to more appropriate needs. Due to the Philadelphia City fiscal restraints and cutbacks to the Philadelphia Police Department, the laboratory will not be able to retain the new hires under the 2009 grant funding. Consequently, the laboratory expects to re-allocate funds under the 2010 grant for salaries to retain these individuals.

UPDATE: July 19, 2011

The City of Philadelphia was able to retain and fund the salaries, utilizing General Funds, of the 6 employees hired under the 2009 Grant. Therefore, it was not necessary to request funds under GAN#5 to retain and fund these positions under this 2010 award.

GAN#5 re-allocated funds to build the capacity of the laboratory with the purchase of two AB 3500xl Genetic Analyzers, Genemapper Software and supplies to process 348 backlogged cases.

ACCOMPLISHMENTS Oct 2010 to December 2010:

None to date.

ACCOMPLISHMENTS January 1, 2011 to June 30, 2011:

UPDATE: July 19, 2011

Utilizing \$175,708.55 of the \$289,261.44 allotment in the Personnel category for overtime, the laboratory was able to process approximately 1191 cases in some manner on overtime during this reporting period using funding from the 2010-DN-BX-K114 grant.

PERFORMANCE METRICS:

There was a decrease of 52 days in the turnaround time since the beginning of this grant until the end of this progress report period. This is largely due to the funding from the FY 2009 DNA Backlog Reduction Grant. It is expected we will begin utilizing from this grant beginning in April 2011.

The backlog of forensic cases is calculated for October 1, 2010 as a combination of the backlog in the Trace Laboratory (2635 cases) plus the backlog in the DNA Laboratory (487 cases) for a total of 3122 cases. The Trace Laboratory does the pre-screening of biological cases.

The backlog of forensic cases is calculated for December 31, 2010 as a combination of the backlog in the Trace Laboratory (2327 cases) plus the backlog in the DNA Laboratory (374 cases) for a total of 2701 cases.

UPDATE: July 20, 2011

The backlog of forensic cases is calculated for June 30, 2011 as a combination of the backlog in the Trace Laboratory (2131 cases) plus the backlog in the DNA Laboratory (341 cases) for a total of 2472 cases.

In approximately 70% of the 1191 cases processed in some manner with overtime funded under this grant during this reporting period, there was no biological material detected upon screening that was suitable for DNA analysis.

Where biological material was detected, it was subjected to DNA analysis. This resulted in 308 profiles being developed. There were 153 Elimination profiles, 76 Suspect profiles and 79 Forensic profiles associated with those cases. Of the 79 Forensic profiles obtained, 44 were suitable for upload to SDIS/NDIS. Of the 44 profiles there were 15 hits.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

GOAL 1:

PROGRESS July 1, 2011 to December 31, 2011:

The Laboratory utilized an additional \$105,069.43 of the \$289,261.44 allotment in the Personnel category for overtime. The total amount used so far, to 12/31/11, is \$280,777.98. By consolidating cases and using batch processing methods, the laboratory was able to process approximately 894 cases in some manner on overtime during this reporting period using funding from the 2010-DN-BX-K114 grant.

GOAL 2:

PROGRESS July 1, 2011 to December 31, 2011:

Under Budget Modification GAN #5, approved May 9, 2011, there are no monies allotted to outsource cases.

GOAL 3:

PROGRESS July 1, 2011 to December 31, 2011:

The following equipment was purchased and delivered December 2011.

1. AB 3500xl Genetic Analyzer HID x 2
2. Desktop Computers x 11
3. Franek UPS for AB 3500xl x 2

Completion of the installation of the two 3500xl Genetic Analyzers and associated Franek UPSs is pending completion of renovations to DNA room 322. Electrical upgrades by Public Property were completed in January 2012. Applied Biosystems started the installation of the 3500xl Genetic Analyzers on January 25, 2012. It is expected that installation of the two ABI 3500 Genetic Analyzers and the relocation of the two existing 3130xls will be completed in March 2012.

Installation of the Desktop computers is pending "Imaging" to be completed by the Philadelphia IT department and the microscope vendor to configure the computers for use with the existing microscopes. This is expected to be completed in February 2012.

The following item was approved to purchase and ordered January 19, 2012 but has not yet been received.

4. Cannon 5000EN Copier.

Delivery and installation of the copier is expected February 2012.

GOAL 4:

PROGRESS July 1, 2011 to December 31, 2011:

This item was removed from the grant May 9, 2011 under GAN#5.

GOAL 5:

PROGRESS July 1, 2011 to December 31, 2011:

The purchases of supplies requested under this grant are delayed awaiting the relocation of two existing 3130xl genetic analyzers and the installation and validation of two new 3500xl genetic analyzers. The supplies for the existing 3130xls will be purchased in March 2012. It is expected that the supplies for the 3500xls will be purchased in June of 2012 following completion of their validation.

A Project period GAN is being prepared to extend the Grant Period until December 31, 2012.

PROJECT DELAYS:

UPDATE: January 27, 2012

Delays in scheduling have prevented setting up a Personal Services Contract with University of North Texas prior to 10/21/11. Permission to conduct this training was rescinded by DOJ after 10/21/11. Permission to conduct this training will be applied for at least 60 days prior to the planned training.

The purchases of supplies requested under this grant are delayed awaiting the relocation of two existing 3130xl genetic analyzers and the installation and validation of two new 3500xl genetic analyzers. The supplies for the existing 3130xls will be purchased in March 2012. It is expected that the supplies for the 3500xls will be purchased in June of 2012 following completion of their validation.

The Philadelphia Procurement process has delayed the establishment of a Purchase Order for the Qualtrax Software requested to be purchased on 5/19/11. A Purchase Order for this item is expected shortly.

A Project period GAN is being prepared to extend the Grant Period until December 31, 2012.

ACCOMPLISHMENTS Oct 2010 to December 2010:

None to date.

ACCOMPLISHMENTS January 1, 2011 to June 30, 2011:

UPDATE: July 19, 2011

Utilizing \$175,708.55 of the \$289,261.44 allotment in the Personnel category for overtime, the laboratory was able to process approximately 1191 cases in some manner on overtime during this reporting period using funding from the 2010-DN-BX-K114 grant.

ACCOMPLISHMENTS July 1, 2011 to December 31, 2011:

UPDATE: January 24, 2012

Utilizing an additional \$105,069.43 of the \$289,261.44 allotment in the Personnel category for overtime, the laboratory was able to process approximately 894 cases in some manner on overtime during this reporting period using funding from the 2010-DN-BX-K114 grant. The total amount used so far, to 12/31/11, is \$280,777.98.

PERFORMANCE METRICS:

There was a decrease of 52 days in the turnaround time since the beginning of this grant until the end of this progress report period. This is largely due to the funding from the FY 2009 DNA Backlog Reduction Grant. It is expected we will begin utilizing from this grant beginning in April 2011.

The backlog of forensic cases is calculated for October 1, 2010 as a combination of the backlog in the Trace Laboratory (2635 cases) plus the backlog in the DNA Laboratory (487 cases) for a total of 3122 cases. The Trace Laboratory does the pre-screening of biological cases.

The backlog of forensic cases is calculated for December 31, 2010 as a combination of the backlog in the Trace Laboratory (2327 cases) plus the backlog in the DNA Laboratory (374 cases) for a total of 2701 cases.

UPDATE: July 20, 2011

The backlog of forensic cases is calculated for June 30, 2011 as a combination of the backlog in the Trace Laboratory (2131cases) plus the backlog in the DNA Laboratory (341 cases) for a total of 2472 cases.

In approximately 70% of the 1191 cases processed in some manner with overtime funded under this grant during this reporting period, there was no biological material detected upon screening that was suitable for DNA analysis.

Where biological material was detected, it was subjected to DNA analysis. This resulted in 308 profiles being developed. There were 153 Elimination profiles, 76 Suspect profiles and 79 Forensic profiles associated with those cases. Of the 79 Forensic profiles obtained, 44 were suitable for upload to SDIS/NDIS. Of the 44 profiles there were 15 hits.

UPDATE: January24, 2012

The backlog of forensic cases is calculated for December 31, 2011 as a combination of the backlog in the Trace Laboratory (2075 cases) plus the backlog in the DNA Laboratory (392 cases) for a total of 2467 cases.

In approximately 70% of the 894 cases processed in some manner with overtime funded under this grant during this reporting period, there was no biological material detected upon screening that was suitable for DNA analysis.

Where biological material was detected, it was subjected to DNA analysis. This resulted in 237 profiles being developed. There were 36 Elimination profiles, 119 Suspect profiles and 89 Forensic profiles associated with those cases. Of the 89 Forensic profiles obtained, 59 were suitable for upload to SDIS/NDIS. Of the 59 profiles there were 16 hits.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

GOAL 1:

PROGRESS January 1, 2012 to June 30, 2012:

The Laboratory did not utilize any additional monies from the allotment in the Personnel category for overtime. The total amount used so far, to 6/30/12, is \$280,777.98.

GOAL 2:

PROGRESS January 1, 2012 to June 30, 2012:

Under Budget Modification GAN #5, approved May 9, 2011, there are no monies allotted to outsource cases.

GOAL 3:

PROGRESS January 1, 2012 to June 30, 2012:

The following equipment was purchased and delivered January 2012.

Cannon 5000EN Copier.

The following equipment and Software was purchased and delivered to the Police IT Department at the end of June, 2012. Installation by Police IT and implementation by Qualtrax is expected in August, 2012.

**Qualtrax Computer Server, KVM switch and associated MS software.
Qualtrax Compliance Software.**

The following item was approved to purchase March 7, 2012 but has not yet been ordered from the manufacturer because of procurement delays. Delivery and installation of the 7500 Real Time qPCR is expected September 2012.

Life Technologies 7500 Real Time qPCR.

GOAL 4:

PROGRESS January 1, 2012 to June 30, 2012:

This item was removed from the grant May 9, 2011 under GAN#5.

GOAL 5:

PROGRESS January 1, 2012 to June 30, 2012:

The purchases of supplies requested under this grant are delayed awaiting the completion of validation studies on the new 3500xl genetic analyzers. The supplies for the 3500xls will be purchased in June of 2012 following completion of their validation.

PROJECT DELAYS:

UPDATE: July 30, 2012

The purchase of a Life Technologies 7500 Real Time qPCR has been delayed due to the legal departments of Philadelphia and Life Technologies working out the details of a new procurement contract.

Delays in the procurement process have prevented setting up a Personal Services Contract with University of North Texas professors to conduct training. Permission to conduct this training will be applied for at least 60 days prior to the planned training.

The purchases of supplies requested under this grant are delayed awaiting the relocation of one existing 3130xl genetic analyzer and the validation of one of two new 3500xl genetic analyzers. It is expected that the supplies for the 3500xls will be purchased in September of 2012 following completion of their validation.

ACCOMPLISHMENTS Reporting Period - January 1, 2012 to June 30, 2012:

UPDATE: July 30, 2012

The Cannon 5000EN Copier was purchased and installed in February 2012.

The Qualtrax Compliance Software and the Qualtrax Computer Server were purchased.

Installation and implementation by Police IT and Qualtrax is expected in August, 2012.

The two 3500xls have been installed and validation studies are expected to be completed within the next two months.

PERFORMANCE METRICS:

UPDATE: July 30, 2012

The Laboratory did not utilize any monies from the allotment in the Personnel category for overtime.

The backlog of forensic cases is calculated for June 30, 2012 as a combination of the backlog in the Trace Laboratory (2104 cases) plus the backlog in the DNA Laboratory (368 cases) for a total of 2472 cases.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

GOAL 1:

PROGRESS July 1, 2012 to December 31, 2012:

No additional monies in the Personnel category allocated for overtime were used in this reporting period. The entire amount of \$289,261.44 allocated for overtime in the budget has been exhausted. An adjustment in the overtime rates and an accounting error doubling the amount charged against the 2011 DNA Grant in September of 2011 incorrectly made it appear as though there was \$8483.46 remaining to be expended. This \$8483.46 balance in the Personnel category was incorrectly reported in the previous progress report.

GOAL 2:

PROGRESS July 1, 2012 to December 31, 2012:

Under Budget Modification GAN #5, approved May 9, 2011, there are no monies allotted to outsource cases.

GOAL 3:

PROGRESS July 1, 2012 to December 31, 2012:

The following equipment and Software was purchased and delivered to the Police IT Department at the end of June, 2012. Installation by Police IT and implementation by Qualtrax is expected in March, 2013.

Qualtrax Computer Server, KVM switch and associated MS software.

Qualtrax Compliance Software.

The following item was approved to purchase March 7, 2012 but the order could not be placed with the manufacturer because of procurement delays. The order was placed 1/20/13. Delivery and installation of the 7500 Real Time qPCR is expected February 2013.

Life Technologies 7500 Real Time qPCR.

GOAL 4:

PROGRESS July 1, 2012 to December 31, 2012:

This item was removed from the grant May 9, 2011 under GAN#5.

GOAL 5:

PROGRESS July 1, 2012 to December 31, 2012:

The purchases of supplies requested under this grant are delayed awaiting resolution of climate control issues in the room housing the two 3500xl genetic analyzers and IT/Software Issues. The supplies for the 3500xls are expected to be purchased in April of 2013 following resolution of all issues.

PROJECT DELAYS:

UPDATE: January 28, 2013

The purchase of a Life Technologies 7500 Real Time qPCR has been delayed due to the legal departments of Philadelphia and Life Technologies working out the details of a new procurement contract. The legal issues have been worked out, a contract is in place and Purchase Orders released. The order was placed 1/20/13 and delivery is expected in February of 2013.

The Personal Services Contract with University of North Texas professors to conduct training was requested to be removed from the grant on 1/24/13 by a Budget Modification GAN.

The purchases of supplies requested under this grant are delayed awaiting resolution of climate control issues in the room housing the two 3500xl genetic analyzers and IT/Software Issues. The supplies for the 3500xls are expected to be purchased in April of 2013 following resolution of all issues.

Installation of the Qualtrax Computer Server and the Qualtrax Compliance Software has been delayed due to concerns by the IT Department that the computer room where the Qualtrax Server was intended to be installed would over heat due to the lack of climate control equipment. Specifications for the climate control equipment, its installation and a quote are being sought.

ACCOMPLISHMENTS Reporting Period - July 1, 2012 to December 31, 2012:

UPDATE: January 28, 2013

Progress towards installation of the Qualtrax Computer Server and the Qualtrax Compliance Software was made with the decision to relocate the server to an already existing climate controlled room. This IT decision will allow the installation to begin in February 2013. Installation and implementation by Police IT and Qualtrax is expected to be completed in June of 2013.

Progress towards implementing the two 3500xls into casework was made with the completion of the validation studies in August of 2012. This was done with the assistance of an intern from the Marshall University Technical Assistance Program.

PERFORMANCE METRICS:

UPDATE: January 28, 2013

The Laboratory did not utilize any monies from the allotment in the Personnel category for overtime.

The backlog of forensic cases is calculated for December 31, 2012 as a combination of the backlog in the Trace Laboratory (2143 cases) plus the backlog in the DNA Laboratory (319 cases) for a total of 2462 cases.

The turnaround time is calculated using the Trace Analyst assigned date in our LIMS as the starting date and the date the report is issued as the ending date. These dates correspond to the “submission of a request for forensic DNA analysis and the “delivery of the test results”. The method of calculating the turnaround time has changed since the beginning of the award period as the capabilities of our LIMS and its Management Reports improved. This current method of calculating the turnaround time will be used for all future Progress Reports and all awards.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

GOAL 1:

PROGRESS January 1, 2013 to June 30, 2013:

No additional monies in the Personnel category allocated for overtime were used in this reporting period. The entire amount of \$289,261.44 allocated for overtime in the budget has been exhausted.

GOAL 2:

PROGRESS January 1, 2013 to June 30, 2013:

Under Budget Modification GAN #5, approved May 9, 2011, there are no monies allotted to outsource cases.

GOAL 3:

PROGRESS January 1, 2013 to June 30, 2013:

To increase capacity of the DNA lab by purchase of the following equipment.

Objective A: AB 3500xl Genetic Analyzer HID - Goal completed previously.

Objective B: Desktop computers x 11- Goal completed previously.

Objective C: Cannon 5000EN Copier - Goal completed previously.

Objective D: Franek UPS for AB 3500xl - Goal completed previously.

Objective E: Qualtrax Computer Server – Goal complete previously. Implemented this reporting period.

Objective F: Life Technologies 7500 Real Time qPCR – Purchase & delivered 2/1/13- Validated 5/30/13

Objective G: Freezer Lab - 30C Upright - Cat # 22 285651 –Added GAN 12-Purchase requested 5/29/13

Objective H: Refrigerator Lab 29 CuFt - Cat# 13 991 130 – Added GAN 12 -Purchase requested 5/29/13

Objective I: Centrifuge Eppendorf Model 5424 – Added GAN 12 -Purchase requested 4/11/13

Objective J: Thermomixer R W/24x1.5ml – Added GAN 12 -Purchase requested 4/1/13

Objective K: Powershot G15 Camera-Accessories – Added GAN 12 -Purchase requested 4/11/13

Objective L: Desktop Computers x10 – Added GAN 12-Purchase requested 4/11/13

GOAL 4:

PROGRESS January 1, 2013 to June 30, 2013:

This item was removed from the grant May 9, 2011 under GAN#5.

GOAL 5:

PROGRESS January 1, 2013 to June 30, 2013:

~~To purchase supplies to analyze 59 backlogged cases in house per GAN 7.~~ The purchases of supplies requested under this grant were removed by GAN 12 which was approved 4/11/13.

PROJECT DELAYS:

The above new equipment requests which were added under GAN 12 (approved 4/11/13) are delayed due to Procurement issues. We are awaiting the issuance of Purchase Orders for these items. It is expected that the Purchase Orders will be issued and the items purchased in August of 2013.

ACCOMPLISHMENTS Reporting Period - January 1, 2013 to June 30, 2013:

UPDATE: July 27, 2013

Installation of the Qualtrax Computer Server by Police IT and the implementation of the Qualtrax Compliance Software by Qualtrax were completed in May 2013. Configuration of the system to assist in the tracking of Quality Assurance measures is ongoing.

PERFORMANCE METRICS:

UPDATE: January 28, 2013

The backlog of forensic cases is calculated for June 30, 2013 as a combination of the backlog in the Trace Laboratory (2335 cases) plus the backlog in the DNA Laboratory (332 cases) for a total of 2667cases.

The turnaround time is calculated using the Trace Analyst assigned date in our LIMS as the starting date and the date the report is issued as the ending date. These dates correspond to the “submission of a request for forensic DNA analysis and the “delivery of the test results”.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

GOAL 1:

PROGRESS July 1, 2013 to September 30, 2013:

No additional monies in the Personnel category allocated for overtime were used in this reporting period. The entire amount of \$289,261.44 allocated for overtime in the budget has been exhausted.

GOAL 2:

PROGRESS July 1, 2013 to September 30, 2013:

Under Budget Modification GAN #5, approved May 9, 2011, there are no monies allotted to outsource cases.

GOAL 3:

PROGRESS July 1, 2013 to September 30, 2013:

To increase capacity of the DNA lab by purchase of the following equipment.

Objective A: AB 3500xl Genetic Analyzer HID - Goal completed previously.

Objective B: Desktop computers x 11- Goal completed previously.

Objective C: Cannon 5000EN Copier - Goal completed previously.

Objective D: Franek UPS for AB 3500xl - Goal completed previously.

Objective E: Qualtrax Computer Server – Goal complete previously. Implemented this reporting period.

Objective F: Life Technologies 7500 Real Time qPCR – Purchase & delivered 2/1/13- Validated 5/30/13

Objective G: Freezer Lab - 30C Upright - Cat # 22 285651 -Added GAN 12 - Rec'd – Goal completed

Objective H: Refrigerator Lab 29 CuFt - Cat# 13 991 130 – Added GAN 12 - Rec'd – Goal completed

Objective I: Centrifuge Eppendorf Model 5424 – Added GAN 12 - Rec'd – Goal completed

Objective J: Thermomixer R W/24x1.5ml – Added GAN 12 - Rec'd – Goal completed

Objective K: Powershot G15 Camera-Accessories – Added GAN 12 - Rec'd – Goal completed

Objective L: Desktop Computers x10 – Added GAN 12 - Rec'd – Goal completed

GOAL 4:

PROGRESS July 1, 2013 to September 30, 2013:

This item was removed from the grant May 9, 2011 under GAN#5.

GOAL 5:

PROGRESS July 1, 2013 to September 30, 2013:

~~To purchase supplies to analyze 59 backlogged cases in house per GAN 7.~~ The purchases of supplies requested under this grant were removed by GAN 12 which was approved 4/11/13.

PROJECT DELAYS:

None during this reporting period.

**ACCOMPLISHMENTS Reporting Period - July 1, 2013 to September 30, 2013:
UPDATE: September 30, 2013**

Purchase Orders were issued prior to 9/30/13 for all the equipment requests added under GAN 12 (approved 4/11/13). All of the equipment requests added under GAN 12 were also ordered, purchased and received prior to 9/30/13. All Grant funds have been expended.

PERFORMANCE METRICS:

UPDATE: September 30, 2013

The backlog of forensic cases is calculated for June 30, 2013 as a combination of the backlog in the Trace Laboratory (1959 cases) plus the backlog in the DNA Laboratory (224 cases) for a total of 2183 cases.

The turnaround time is calculated using the Trace Analyst assigned date in our LIMS as the starting date and the date the report is issued as the ending date. These dates correspond to the “submission of a request for forensic DNA analysis and the “delivery of the test results”.

FINAL REPORT:

GOAL 1:

Using funding for overtime, approximately 30 forensic scientists analyzed an additional 2085 cases beyond their normal work production. They were able to dedicate an additional 8 hours per week beyond their normal work hours to the screening, analysis and technical review of DNA cases. They prepared the resulting reports and uploaded the probative results to CODIS. As a result of this effort, 103 profiles were uploaded to CODIS which resulted in 31 hits.

GOAL 2: Removed

GOAL 3:

Utilizing funds provided under this award, the following equipment was purchased to increase the capacity of the DNA laboratory. The equipment was validated and put into service during time frame of this award.

Objective A: AB 3500xl Genetic Analyzer HID - Goal completed

Objective B: Desktop computers x 11- Goal completed

Objective C: Cannon 5000EN Copier - Goal completed

Objective D: Franek UPS for AB 3500xl - Goal completed

Objective E: Qualtrax Computer Server – Goal complete

Objective F: Life Technologies 7500 Real Time qPCR - Goal completed

Objective G: Freezer Lab - 30C Upright - Cat # 22 285651 - Goal completed

Objective H: Refrigerator Lab 29 CuFt - Cat# 13 991 130 – Goal completed

Objective I: Centrifuge Eppendorf Model 5424 – Goal completed

Objective J: Thermomixer R W/24x1.5ml – Goal completed

Objective K: Powershot G15 Camera-Accessories – Goal completed

Objective L: Desktop Computers x10 – Goal completed

GOAL 4: Removed
GOAL 5: Removed.

FY10 Recipient Name: Instituto de Ciencias Forenses, Puerto Rico

Award Number: 2010-DN-BX-K069

Award Amount: \$439,101

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: To hire two (2) Forensic Serologists and four (4) Laboratory Technicians to reduce backlogged cases.
- Goal 2: Compensation for overtime to DNA-Serology Staff
- Goal 3: Attendance of two (2) analysts to the Promega Meeting and 2 (two) analysts to the CODIS Conference.
- Goal 4: To acquire instrumentation and adjunct equipment.
- Goal 5: To acquire reagents for routine operations for DNA and serological analyses.
- Goal 6: To contract technical consultant and CODIS consultant for laboratory support.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: Personnel were interviewed and selected. They will start as soon our human resource process is completed.

Goal 2: Forensic Serologists and Technicians worked overtime during this reporting period. The amount of overtime dedicated was 33.58 hours.

Goal 3: During this year DNA personnel will attend to these scientific meetings.

Goal 4: Quotations for freezer/miller, autoclave, centrifuges, computers, notepads, water purifier, and under-the-counter freezer have been requested.

Goal 5: No reagents have been acquired under this award.

Goal 6: Under this award, no expenses were paid for consultation purposes during this reporting period. However, we have being in contact with the National Forensic Science Technology Center for this screener/serologist training purposes. In addition, we have contacted to train our CODIS personnel in the True Allele Expert System.

No further uploading have been made since during the FBI auditing on October 2010, it was indicated that corrective actions shall to be made prior to continue the uploading. According to the working plan the last requiring action item must be completed by March 31, 2011.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: Personnel were interviewed and selected by January 2011. Human Resources Process including investigation and drug screening was completed on the end of March. New personnel started training by the first week of April 2011.

Goal 2: Forensic Serologists and Technicians worked overtime during this reporting period. The amount of overtime dedicated was 448.54 hours.

Goal 3: During this year DNA personnel will attend to these scientific meetings.

Goal 4: Quotations for freezer/miller, autoclave and centrifuges have been requested. Computers were received. Orders for water purifier, alternate crime-light source and automatic pipettes were placed and we are waiting for delivery.

Goal 5: Pending to request until remaining funds have been expended.

Goal 6: CODIS consultant, Deedra Hughes, was contracted and paid for consultation purposes during this reporting period. We have pending contract with Cybergenetics to train our CODIS personnel in the True Allele Expert System until new data is available.

No further uploading have been made since the FBI auditing on October 2010, it was indicated that corrective actions had to be made prior to continue the uploading. According to the working plan by July 31, 2011 last requiring action item must be complete.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: Personnel were interviewed and selected by January 2011. Human Resources Process including investigation and drug screening was completed on the end of March. New personnel completed training for the screening process by the first week of August 2011.

Goal 2: Forensic Serologists and Technicians worked overtime during this reporting period. The amount of overtime dedicated was 775 hours.

Goal 3: During this year DNA personnel attended to Promega Meeting and CODIS Conference.

Goal 4: Freezer/miller, autoclave and centrifuges were received. Water purifier, alternate crime-light source and automatic pipettes were received.

Goal 5: We have spent \$45,591 in supplies.

Goal 6: The CODIS consultant was contracted and paid for consultation purposes during this reporting period. We have pending contract with Cybergenetics to train our CODIS personnel in the True Allele Expert System until new data is available.

Uploading has been made into the Forensic Index.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Personnel have been trained and are mostly dedicated to sexual assault cases. Since then they have screened 82 sexual assault cases.

Goal 2: Forensic Serologists and Technicians worked overtime during this reporting period. The amount of overtime dedicated was 455.54 hours. By the end of this reporting period, no overtime hours are available.

Goal 5: For this reporting period, we have spent \$17,923.04 in supplies for routine DNA operations. Supplies obtained were: Hemetrace, P-30, EZ1 investigator kits, Identifiler, and POP-4 (polymer), these supplies cover from the extraction phase until the obtainment of the DNA profiles.

Goal 6: The Cybergenetics True Allele Expert System training will be offered by the end of August 2012.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 5: For this reporting period (July – September 2012), no supplies for routine DNA operations were purchased under this federal grant.

Goal 6: The Cybergenetics True Allele Expert System training was offered on August 2012.

The number of cases changed after we reviewed the metrics for this award and revised because they had been reported incorrectly before.

FINAL REPORT:

The main goal of this award is to continue reducing turnaround time, increasing throughput, reducing casework backlog. The average number of days for the award period (from July 2012 until October 2012) between the submission of a sample and the delivery of test results to the

requesting agency was 503 days 23% more than at the beginning of the award. This increment is due to the backlogged sexual assault cases analysis. Once specialized sexual assault kit team (SAK Team) was formed, we started with those cases prior to prescribe since our Puerto Rico Justice System has a Statute of Limitation of five (5) years. Therefore, we started with cases from year 2006. On the other hand, once the evidence arrived to the lab the number of days between the submission of a sample and the delivery of test results to the requesting agency was 108 days versus 112 days at the beginning of the award.

The analysts and technicians contracted for this award period 2010-2012 have been of great help in the performance of the laboratory. Under this backlog proposal K069, a 39% of the total criminal cases received at the lab were SAK cases completed by the two (2) forensic serologists and four (4) forensic technicians. At the beginning of the award, of the total criminal cases only 20% SAK cases were completed. Since this team were assembled has doubled the numbers of SAK cases, completing 39% of total criminal cases analyzed at the Lab. Moreover, for this period (July-Dec 2012), so far, SAK team has completed 22% of the total criminal cases. Although with this increment in completed cases, we have experienced a 36% increase in backlogged cases.

In addition, the contract of CODIS consultant (Deedra Hughes) has also provided guidance for a fully operational CODIS operation for DNA casework and for the DNA CO operations.

This award has also provided the opportunity for our analysts to participate and to create networking among peers overseas. Four of our lab analysts participated in Promega Annual Meeting and for the CODIS Annual Meeting. These activities contributed to the continuing education and establishment of networking relationships with member of the forensic community, thus fostering cooperation and professional growth for the personnel. StarLIMS Version 10 In-house Training was given with this federal fund. Also, funds were used for acquisition of supplies with which carried out the proposed backlog-reduction and verification efforts. This grant provided with equipments such as two alternate light sources, water purifier Millipore, five computers, two microcentrifuges, a thermal cycler and automatic/ergonomic pipettes. In addition, this grant has provided us with such as capillary columns for the analyzers, Quantifilers, DUO, Y-Filers, Identifilers, POP-4, EZ1 extraction reagents and Hematrace/P-30 screening kits. All of these have allowed us to increase more cases in a timely and efficient matter. We are truly appreciative for the funds provided.

Our goals were met:

Goal 1: Two (2) Forensic Serologists and four (4) Laboratory Technicians to reduce backlogged cases were hired.

Goal 2: Compensation for overtime to DNA-Serology Staff

Goal 3: Two (2) analysts to the Promega Meeting and 2 (two) analysts to the CODIS Conference participated at the scientific meetings.

Goal 4: Instrumentation and adjunct equipments were acquired.

Goal 5: Reagents for routine operations for DNA and serological analyses were acquired.

Goal 6: Technical consultant and CODIS consultant for laboratory support (Deedra) was contracted.

Success story: The summer 2011 we formed a specialized sexual assault kit team (SAK Team) that has helped to increase lab productivity in completing SAK cases. For instance, 12 months prior of SAK team creation only 49 sexual assault cases were completed, for approximately 4 cases per month. Since SAK team implementation 134 sexual assault cases were completed representing a 63% more case in a 12 month period, for approximately 11 cases per month. This

increment in the numbers of completed SAK cases is due in part to the new implementation of the Sperm Hy-liter SPERM HY-LITER™ kit and fluorescent microscopes AU Olympus MVX10 and BX51 for screening method. The validation in our lab for this methodology of the Sperm Hy-liter SPERM HY-LITER™ kit and DNA personnel training were assigned to me. The use of the SPERM HY-LITER kit has shown to be optimum to be used in casework for the detection of human specific sperm from sexual assault evidence increasing efficiency of sperm searches for DNA personnel in our Forensic DNA-Serology Laboratory. Since this implementation of this team our KPI for cases completion per month has gone from 40% to a 72%.

The total number of cases analyzed and delivered to the requesting agency using funding provided for overtime and supplies under this award was: 248. The total amounts of profiles entered into CODIS were 9 profiles. We also have 46 cases ready to be uploaded into CODIS, we are working with them. The reason of the low number of profiles entered into CODIS are:

1. On October, 2010 we received a NDIS Assessment from the FBI personnel and one of the findings was that we did not have enough supporting documentation in our cases to sustain the upload of them into CODIS. We created a supporting documentation document to the agents that brings us more information about the scenario of the cases. We also trained them about CODIS and how important supporting documentation is for DNA - Serology Forensic Laboratory. However we still have issues with the information provided and we still have to call them to bring us more supporting documentation to make the correct judgments when we are evaluating and entering profiles into CODIS and be in compliance with the NDIS DNA data acceptance.
 2. 202 cases completed under this award were not eligible for upload into CODIS. These cases include the following:
 - a. 27 serological reports with no DNA profiles.
 - b. 3 nuclear DNA analysis with no DNA profiles
 - c. 31 proficiency tests
 - d. 5 CODIS hit confirmations
 - e. 2 reports of biological evidence not analyzed
 - f. 134 reports evaluated but not eligible for upload into CODIS
-

FY10 Recipient Name: Rhode Island Public Safety Grant Administration Office

Award Number: 2010-DN-BX-K125

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: To hire a Forensic Scientist Associate to process DNA casework.

Goal 2: To maintain continuing education and training for DNA analysts.

Goal 3: Purchase a personal computer and printer for data review.

Goal 4: Validate our 3130 genetic analyzer, and maintain our genetic analyzers, thermal cyclers, real-time PCR system, in good working condition, in accordance with both ISO 17025, and the FBI's Quality Assurance Standards.

Goal 5: To hire a contract employee as a technician for laboratory assistance.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Please note that these are not the original goals and objectives. A request for Budget Modification GAN was approved in December, 2010.

Goal 1: Progress: The position was posted in December of 2010, interviews were scheduled, and we hope to make our selection in January. We anticipate that the candidate will be employed at the laboratory by mid-March.

Goal 2: Progress: We have not yet utilized the budgeted funds for this purpose. These conferences will be held later on this year.

Goal 3: Progress: We are in the process of procuring a quote; however, due to a backlog in our IT department, they have put new quotes on hold temporarily until February. We anticipate the purchase within the January - June, 2011 reporting period.

Goal 4: Progress: A purchase order has been procured for this purpose.

Goal 5: Progress: A position was posted, and resumes are being collected through our contractor, ADIL Business Systems. We anticipate making our selection in January, 2011.

Regarding Question 4 in performance metrics: Due to personnel changes, there was a severe staff shortage during this period. Two new analysts will be training in DNA and Biology soon.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

A request for Budget Modification GAN was approved in December, 2010. A Change of Scope GAN will be filed to reflect changes within the contract budget category.

Goal 1: Progress: The new analyst was hired in February. She completed her training in evidence examinations/body fluid identification, and as of May 1, 2011, was deemed competent in DNA extraction, quantification, PCR amplification, STR typing, and preparing draft reports. As of the end of this reporting period, she is in the supervised DNA casework phase; therefore her training is nearly complete. She has screened and/or performed DNA testing on 26 cases as of June 30th. Funding for this analyst was also included on the 2009 Backlog Reduction award, which we are still drawing down. Once that is finished, her salary and fringe will be drawn from the 2010 award.

Goal 2: Progress: In May, one analyst attended a two day workshop at Promega's facility in Wisconsin, thereby fulfilling her requirements for continuing education. The remaining conferences will be held in the next reporting period.

Goal 3: Progress: The computer and printer were purchased in this reporting period.

Goal 4: Progress: State funds were used for the purchase order that was procured as indicated in the previous progress report. A change of scope GAN will be filed to indicate that this item will be removed from the 2010 award budget. We found it necessary to shift funds within the contract budget category to cover a portion of our outsourced 3130 Genetic Analyzer validation project with Applied Biosystems, and our Forensic Biology technician salary.

Goal 5: Progress: The contract employee was hired in January, but resigned to accept a permanent full-time position in the laboratory. We acquired a new contract employee in early May, 2011. A Change of Scope GAN will be filed to decrease the amount of hours the employee will work due to a slightly higher salary, and an increase in the amount of funds needed for the 3130 validation project. Funding for the technician was also included on the 2009 Backlog Reduction award, which we are still drawing down. Once that is finished, salary will be drawn from the 2010 award.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: The DNA analyst worked cases on this award during the months of July, August, and September. Nine DNA cases which produced DNA profiles were completed during this time, 3 profiles were uploaded to CODIS, resulting in 1 hit. We had requested permission from the Program Manager to move this position off of Federal funds and replace it with a vacant Forensic Biology/DNA position to speed up the recruitment and hiring process, which was done for the last half of this reporting period. We expect that the position will be posted in January, 2012. The optional metric indicates the cases processed, files uploaded, and CODIS hits with the grant funded analyst.

Goal 2: In October, one analyst attended Promega's International Symposium on Human Identification. This included a workshop on DNA mixture interpretation. In November, two analysts attended an expert witness testimony workshop, focusing on cross examination, at the NEAFS meeting in Rhode Island. This ensured that the training requirements in the FBI's Quality Assurance Standards were fulfilled for 2011. Complete.

Goal 3: There was a delay in our server migration which ultimately resulted in the computer not being used for GeneMapper ID data review; instead, we had a need for reviewing and documenting DNA casework and proficiency testing on our other server. The printer is in the Laboratory. Complete.

Goal 4: The Change of Scope GAN for the above was filed and approved. The 3130 Genetic Analyzer validation began in July. A scientist from Applied Biosystems was on-site for approximately one week to validate the instrument using the Identifiler Plus kit, also new to this Laboratory. The validation studies have been provided, and the Technical Leader is in the process of reviewing and approving them. The 'teach-back' portion of this project is expected to occur early in 2012.

Goal 5: The Change of Scope GAN was filed and approved for the changes listed in the previous reporting period. The technician has been fully trained; duties include the receipt and management of DNA evidence and assistance with the general operation of the DNA/CODIS Laboratory, thereby freeing up DNA analysts' time. We are hoping to hire the technician as a full time permanent employee using funds in the 2011 DNA Backlog Reduction/CODIS award.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Our casework turnaround time decreased by 54%. This is due to the fact that there are more DNA analysts qualified to do data review, and we changed our evidence submission/testing policy. This change, implemented in January, limits the number of samples that are initially submitted to the laboratory, depending on case type

Our backlog is only 43% of what it was at the beginning of the first reporting period, and we expect that the new analyst will help us improve even more. There were no hits attributable to the casework analyst due to the fact that she was just hired in May, but we anticipate more activity in the next reporting period.

Goal 1: To hire a Forensic Scientist Associate to process DNA casework.

The new analyst was hired in May. She is performing evidence examinations and body fluid identification under supervision by qualified analysts, and is progressing in a timely fashion. We expect her to be fully trained by the end of the next reporting period. For the time being, this analyst will be responsible for the bulk of the evidence examination/body fluid identifications submitted to the laboratory so as to reduce the backlog in cases such as sexual assaults. As of June 30, she has processed 13 cases in the training phase

Goal 2: To maintain continuing education and training for DNA analysts. Complete.

Goal 3: Purchase a personal computer and printer for data review. Complete.

Goal 4: Validate our 3130 genetic analyzer, and maintain our genetic analyzers, thermal cyclers, real-time PCR system, in good working condition, in accordance with both ISO 17025, and the FBI's Quality Assurance Standards.

The 'teach-back' portion of the 3130 Genetic Analyzer validation project occurred in March. All six qualified DNA analysts attended the presentation, which included an extensive review of the studies conducted by Applied Biosystems, hands-on laboratory work, and data review. The 3130 instrument is now in use. Complete.

.Goal 5: To hire a contract employee as a technician for laboratory assistance.

The technician continues to manage evidence and assist with the general operation of the DNA/CODIS Laboratory. As a result, the analysts are able to devote more time to evidence examinations and DNA casework. As of this reporting period, we still have not been given the FTE to hire a permanent state position.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: To hire a Forensic Scientist Associate to process DNA casework.

Our analyst will be responsible for the bulk of the evidence examination/body fluid identifications submitted to the laboratory so as to reduce the backlog in cases such as sexual assaults. In this reporting period, she has processed 37 cases, 7 of which were entered into CODIS. She is scheduled to begin training in DNA casework in January of 2013.

Goal 2: To maintain continuing education and training for DNA analysts. Complete.

Goal 3: Purchase a personal computer and printer for data review. Complete.

Goal 4: Validate our 3130 genetic analyzer, and maintain our genetic analyzers, thermal cyclers, real-time PCR system, in good working condition, in accordance with both ISO 17025, and the FBI's Quality Assurance Standards. Complete.

Goal 5: To hire a contract employee as a technician for laboratory assistance.

The technician continues to manage evidence and assist with the general operation of the DNA/CODIS Laboratory. As a result, the analysts are able to devote more time to evidence examinations and DNA casework. As of this reporting period, we have been given permission to hire a permanent state position for this FTE.

FINAL REPORT:

The Rhode Island Department of Health's Forensic Biology Laboratory was awarded \$150,000 supported under FY10 (NIJ-COPS DNA/Forensics Pub. L No. 111-117, 123 Stat. 3034, 3138; 28 USC 530C). The effective start date was October 1, 2010. The goals stated in the FY 2010 Forensic DNA Backlog Reduction Project Narrative focused on six major areas: 1) hiring one Forensic Scientist to process cases, 2) ensure functional instrumentation with maintenance contracts, 3) provide analysts with additional training 4) provide analysts with individual workstations for DNA data review, 5) desktop computers for data review, and 6) contract with an outside vendor to assist with the validation of our 3130 Genetic Analyzer.

Due to the fact that we had multiple awards open, we did not begin to draw down any funds on this award until May, 2011. With the guidance of our Program Manager, we re-worked the 2008, 2009, and 2010 award budgets so that the draw downs would occur in a more timely fashion.

This included a budget modification GAN filed in December, 2010, which included a minor decrease in travel (-\$16); and equipment (-\$1170); contractual (\$6735); other (-\$5751). A change

of project period GAN was filed in August, 2011 to extend the award period to December 31, 2012. A second budget revision GAN was filed in December, 2012 with some necessary adjustments due to decreased expenses for our Forensic Scientist Associate, and an increase in our contractual services portion of the budget. Draw-downs were conducted through December, 2012.

After the budget revision GAN was approved, our backlog reduction strategies produced the following new goals: 1) hire a Forensic Scientist Associate to perform DNA casework; 2) maintain our instruments in good working condition in accordance with required standards; 3) outsource the validation of the laboratory's 3130 Genetic Analyzer; 4) continue our use of a contract employee as a Forensic Biology Technician; 5) purchase an updated computer station and printer.

The new Forensic Scientist Associate was hired in February, 2011, using funds from our 2009 DNA Backlog Reduction award. We were fortunate to fill the position with an individual who had previously served as an intern, so the learning curve was relatively short. She completed the bulk of her training by May, and she was performing unsupervised casework by October, at which time she was funded by the 2010 Backlog Reduction award. In September, 2011, we requested to move this federally funded position onto a state account, and place our vacant Forensic Scientist Associate onto the 2010 award. By doing this, we were able to speed up the process of hiring for the vacancy. The new Associate was hired in May, 2012. She analyzed 52 cases; 3 profiles were uploaded to CODIS, and 1 hit resulted from this Forensic Scientists' work funded by this award.

In order to continue compliance with the FBI's Quality Assurance Standards for the preventative maintenance and repairs of our thermal cyclers, real time PCR system, and genetic analyzers, we renewed our service contract with Applied Biosystems. All instruments are in good working order and in compliance with the standards.

We were having difficulty carrying out the validation of our 3130 Genetic Analyzer, purchased on an earlier award, due to time constraints, so we decided that it would be best to outsource our validation to an outside company. Funds for this project were drawn from 2008 and 2009 awards as well. We evaluated proposals from several vendors, and chose Applied Biosystems. A validation team member came on-site for a week in July, 2011. The validation studies were completed and all data and summaries were provided to the Technical Leader, and she approved them. The 'teach-back' portion of the contract was completed in March, 2012. All six qualified analysts attended this extensive training, and the instrument was placed into service shortly thereafter.

Our technician, contracted through ADIL Business Systems, was hired in January 2011 using funds from a previous award, but resigned to fill a full-time opening in the Laboratory. The second contract employee was hired in May using 2010 funds, and continued to assist with Biology/DNA evidence control, convicted offender collection when necessary, and sample processing. This had a positive effect on the cataloging, maintenance, and release of evidence, and took a large burden off of the DNA analysts. We are hoping to hire the technician as a permanent full-time state employee using funds from another DNA award.

The computer and printer are utilized for data review, proficiency testing, and quality assurance purposes.

In order to maintain continuing education and training for DNA analysts, we sent two Forensic Scientists to the Northeastern Association of Forensic Scientists conference in Newport, RI in November, 2011. They both attended a one day workshop entitled, "Surviving a DNA Cross

Examination.” One analyst attended the annual International Symposium on Human Identification in National Harbor MD in October, 2011. Another analyst attended a workshop sponsored by Promega in Madison, WI. The topic was the use and validation of their PowerPlex 18 kit. All DNA analysts completed the required continuing education requirements under the FBI’s Quality Assurance Standards.

While our turnaround time increased slightly when compared with the beginning of the award, we had significant obstacles to overcome with staffing, especially in the area of technical review. We had lost our most experienced DNA analyst, and had two trainees. This left the Supervisor/Technical Leader and the CODIS Manager as the only two qualified DNA analysts in the section. The Chief of Forensics assisted with reviews when necessary. By December of 2011, we had two fully trained DNA analysts in casework and in June, 2012, one in databasing.

Our throughput, samples per DNA analyst per month, was also affected by our personnel shortage. Our experienced analyst went out on medical leave in December of 2010, and the throughput diminished rapidly. We anticipate a steady increase now that our analysts are fully trained. The analyst funded through this award is fully trained in evidence examinations, and we expect to begin her DNA training in January, 2013.

While the backlog is essentially the same from the first progress report to the last, a lot of cases that were backlogged during this award were in case review. The outsourcing at Fairfax Identify Labs from the 2007 and 2008 Backlog Reduction awards was complete; but, in-house technical and administrative reviews needed to be conducted. We anticipate that the backlog will be reduced significantly with our fully trained staff and the funded analyst.

We were satisfied with all goods and deliverables purchased under this award, and our Program Manager provided invaluable assistance with budgetary changes so that we could spend down this award in a more timely fashion and take a longer range approach to our backlog by hiring additional personnel.

FY10 Recipient Name: County of Richland, South Carolina

Award Number: 2010-DN-BX-K074

Award Amount: \$113,950

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Broadly it is the overall goal of the RCSD to improve DNA analysis capacity and to reduce backlogged DNA casework. Please note that the RCSD Forensic Lab calculates the backlog when the Lab takes custody of the case, not when it is logged into evidence.

Objective 1: *Reduce backlogged DNA casework*

Objective 2: *Reduce turnaround time*

Note: Please add specific objectives here. Specific purchases, specific budget expenditures that will help to reduce your backlog and turnaround time – for example, the hiring of and role descriptions of the Specialist and Analyst should go here.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Note that 2010 funds were not accessed during this period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Broadly it is the overall goal of the RCSD to improve DNA analysis capacity and to reduce backlogged DNA casework. Please note that the RCSD Forensic Lab calculates the backlog when the Lab takes custody of the case, not when it is logged into evidence. FY2010 funds were not accessed until February 1, 2011 and reflect the salaries are the DNA Specialist and one DNA Analyst. The DNA specialist has continued in her role of DNA evidence and casework. She conducts quality assurance/quality control functions, evidence processing, evidence transfers, administrative functions, data archiving, and immunological, and biochemical analyses on evidence submitted. She handles all cases through extraction for the two non grant-funded analysts. She conducts physical, microscopic, immunological, and biochemical analyses on evidence submitted, provides testimony in federal, state and local courts, processes crime scenes, provides forensic training or instruction to law enforcement officers, other representatives of the criminal justice community and other individuals as requested and she assists in the development and validation of new or improved DNA methodologies,

Objective 1: At the beginning of the award period the number of backlogged cases was 9. At the end of the reporting period the number was at 136. The reason for the increase in number of backlogged cases during this period was that the RCSD Forensic Laboratory DNA Section provided evidence gathering training to all sworn RCSD personnel. This training has resulted in a substantial increase in the number of items being submitted for analysis, particularly as is pertains to sexual assault cases (clothing, bed linens, etc). In addition, Richland County has experienced an increase in the number of criminal incidents in recent months, which has also led to an increase in evidence being submitted for analysis.

Objective 2: At the beginning of the period, the number of days required for case turnaround was 79 and at the end of this reporting period, the number of days was 54.

Optional Metric: During the award period, the grant funded analyst processed 165 cases, 44 profiles were entered into CODIS and 15 CODIS hits were made

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Broadly it is the overall goal of the RCSD to improve DNA analysis capacity and to reduce backlogged DNA casework. Please note that the RCSD Forensic Lab calculates the backlog when the Lab takes custody of the case, not when it is logged into evidence. FY2010 funds were accessed until February 1, 2011 and reflect the salaries are the DNA Specialist and one DNA Analyst. The DNA specialist has continued in her role of DNA evidence and casework. She conducts quality assurance/quality control functions, evidence processing, evidence transfers, administrative functions, data archiving, and immunological, and biochemical analyses on evidence submitted. She handles all cases through extraction for the two non grant-funded analysts. She conducts physical, microscopic, immunological, and biochemical analyses on evidence submitted, provides testimony in federal, state and local courts, processes crime scenes, provides forensic training or instruction to law enforcement officers, other representatives of the criminal justice community and other individuals as requested and she assists in the development and validation of new or improved DNA methodologies,

Objective 1: *Reduce backlogged DNA casework.*

At the beginning of the award period the number of backlogged cases was 9. At the end of the reporting period the number was at 319. The reason for the increase in number of backlogged cases during this period was that the RCSD Forensic Laboratory DNA Section

provided evidence gathering training to all sworn RCSD personnel. This training has resulted in a substantial increase in the number of items being submitted for analysis, particularly as is pertains to sexual assault cases (clothing, bed linens, etc) and property crimes. Property crimes account for 70% of all submissions for analysis. The process and productivity of the RCSD Forensic Laboratory did not change during this period, but the number of samples submitted for analysis did increase significantly, leading to the increase in backlogged cases.

Objective 2: *Reduce turnaround time.*

At the beginning of the period, the number of days required for case turnaround was 79 and at the end of this reporting period, the number of days was 53. Case turnaround time did not change in a significant way during this period.

Optional Metric: During the award period, the grant funded analyst processed 263 cases, 67 profiles were entered into CODIS and 10 CODIS hits were made

PROGRESS REPORT 4: January 1, 2012 – March 31, 2012

Broadly it is the overall goal of the RCSD to improve DNA analysis capacity and to reduce backlogged DNA casework. Please note that the RCSD Forensic Lab calculates the backlog when the Lab takes custody of the case, not when it is logged into evidence. FY2010 funds were not accessed until February 1, 2011 and reflect the salaries are the DNA Specialist and one DNA Analyst. The DNA specialist has continued in her role of DNA evidence and casework. She conducts quality assurance/quality control functions, evidence processing, evidence transfers, administrative functions, data archiving, and immunological, and biochemical analyses on evidence submitted. She handles all cases through extraction for the two non grant-funded analysts. She conducts physical, microscopic, immunological, and biochemical analyses on evidence submitted, provides testimony in federal, state and local courts, processes crime scenes, provides forensic training or instruction to law enforcement officers, other representatives of the criminal justice community and other individuals as requested and she assists in the development and validation of new or improved DNA methodologies,

Objective 1: *Reduce backlogged DNA casework.*

At the beginning of the award period the number of backlogged cases was 9. At the end of the reporting period (March 30, 2012) the number was at 118. The reason for the increase in number of backlogged cases during this period was that the RCSD Forensic Laboratory DNA Section provided evidence gathering training to all sworn RCSD personnel. This training has resulted in a substantial increase in the number of items being submitted for analysis, particularly as is pertains to sexual assault cases (clothing, bed linens, etc) and property crimes. Property crimes account for 70% of all submissions for analysis. The process and productivity of the RCSD Forensic Laboratory did not change during this period, but the number of samples submitted for analysis did increase significantly, leading to the increase in backlogged cases. Despite the increase from the beginning of the grant period, the number of backlogged cases is still down from 319 as of December 2011.

Objective 2: *Reduce turnaround time.*

At the beginning of the period, the number of days required for case turnaround was 79 and at the end of this reporting period, the number of days was 36. Case turnaround time did decrease in a significant way during this period.

Optional Metric: During the reporting period, the grant funded analyst processed 65 cases, 36 profiles were entered into CODIS and 4 CODIS hits were made

FINAL REPORT:

Broadly it was the overall goal of the RCSD to improve DNA analysis capacity and to reduce backlogged DNA casework. Please note that the RCSD Forensic Lab calculates the backlog when the Lab takes custody of the case, not when it is logged into evidence. FY2010 funds were not accessed until February 1, 2011 and reflect the salaries of the DNA Specialist and one DNA Analyst until March 31, 2012. The DNA specialist has continued in her role of DNA evidence and casework. She conducts quality assurance/quality control functions, evidence processing, evidence transfers, administrative functions, data archiving, and immunological, and biochemical analyses on evidence submitted. She handles all cases through extraction for the two non grant-funded analysts. She conducts physical, microscopic, immunological, and biochemical analyses on evidence submitted, provides testimony in federal, state and local courts, processes crime scenes, provides forensic training or instruction to law enforcement officers, other representatives of the criminal justice community and other individuals as requested and she assists in the development and validation of new or improved DNA methodologies,

Objective 1: *Reduce backlogged DNA casework.*

At the beginning of the award period the number of backlogged cases was 9. At the end of the reporting period the number was at 118. The reason for the increase in number of backlogged cases during this period was that the RCSD Forensic Laboratory DNA Section provided evidence gathering training to all sworn RCSD personnel. This training has resulted in a substantial increase in the number of items being submitted for analysis, particularly as it pertains to sexual assault cases (clothing, bed linens, etc) and property crimes. Property crimes account for 70% of all submissions for analysis. The process and productivity of the RCSD Forensic Laboratory did not change during this period, but the number of samples submitted for analysis did increase significantly, leading to the increase in backlogged cases.

Objective 2: *Reduce turnaround time.*

At the beginning of the period, the number of days required for case turnaround was 79 and at the end of this reporting period, the average number of days required for case turnaround over the life of the project was 49. Case turnaround time did change in a significant way since the beginning of the award.

Optional Metric: During the award period, the grant funded analyst processed 493 cases, 147 profiles were entered into CODIS and 29 CODIS hits were made.

FY10 Recipient Name: South Carolina Law Enforcement Division

Award Number: 2010-DN-BX-K103

Award Amount: \$1,399,617

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To fund a total of eight positions in the DNA Laboratory, to include four analysts (one to oversee outsourcing and three to perform casework), and four Serologists.

Goal 2 - To analyze 225 cases using overtime or supplies funded by this award.

Goal 3 – This goal has been changed from funding travel for training to funding supplies for validation

Goal 4 – To purchase MorphoTrack system for Database department

Goal 5 - Outsourcing of Property Crimes

Goal 6 – To purchase various items of equipment and instruments. Items for new hires and to finalize functionality of newly renovated Serology laboratory; and to increase capacity in the Database laboratory and maintain capacity in the Casework lab.

PROGRESS REPORT 1: October 1 – December 31, 2010

Goal 1 - Progress - Applications have been received for the 4 positions and qualified applicants are in the process of being scheduled for interviews. The DNA analyst hired with FY08 funds is currently performing duties associated with setting up the outsourcing program funded starting on the 2009 award. The part-time DNA assistant is still undergoing training to assist in managing evidence movement in the DNA lab and outsourced evidence, as well.

Goal 2 - Progress - We do not yet have access to backlog funds on this award.

Goal 3 - Progress- Validation supplies for the database department validation of Poweplex have been purchased. Other purchases are pending.

Goal 4 - Progress – This will be purchased in the near future

Goal 5 - Progress - This will be a continuation of a program in the process of being started at this time.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - Progress - Qualified applicants have been chosen and are in the hiring process for the 2 new analyst and 2 new Serologists. These funds will be used to maintain these positions. The DNA analyst and part-time technician hired with FY08 funds is currently performing duties associated with setting up the outsourcing program funded starting on the 2009 award.

Goal 2 - Progress - We do not yet have access to backlog funds on this award.

Goal 3 - Progress- These funds have not yet been expended.

Goal 4 - Progress -These items will be purchases in the near future

Goal 5 - Progress - This will be a continuation of a program in the process of being started at this time.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 - Progress - Two new analysts have been hired and the 2 Serologists will be starting soon. Agency budget cuts slowed the hiring process as HR is extremely short-staffed. However, we now have a new agency head and a new HR Director and we expect things to improve in this regard. These funds will be used to maintain these positions. The DNA analyst hired with FY08 funds is currently performing duties associated with the outsourcing program funded starting on the 2009 award. The part-time technician hired has resigned, and as of this time we do not intend to fill that position, so we will soon request funds will be re-allocated for other use.

Goal 2 - Progress - We have not yet started using the backlog funds on this award.

Goal 3 - Progress- We have deleted funds for travel to conferences and training from this award and re-directed them

Goal 4 - Progress –This purchase is in progress. The company is continuing to work with Porter-Lee (our LIMS vendor) on integration of the two programs. Projected ship date is March 21, 2012, for installation and testing.

Goal 5 - Progress – This program is a continuation of the same program funded by a previous award. It continues to be very successful. We are currently using two vendors and hope to start another in the spring of 2013.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Please note: This report reflects depressed number of average samples per analyst per month, likely due to several factors:

- 1) Two top producers have had trainees, thus slowing them considerably
- 2) Another top producer has had duties associated with the outsourcing project assigned to her, thus reducing her normally high level of productivity.
- 3) One member of the staff became pregnant and suffered from associated illness, increasing her absenteeism
- 4) Another member of the staff has been working on a class associated with UNT (funded by NIJ) and has not been able to produce at normal levels.

Goal 1 - Progress – All filled positions are currently being funded by the FY2009 award. Funding will change over to this award within a couple of months after the date of this report. The part-time technician resigned, and we have no current plans to fill that position in the same capacity; so we will soon request to re-purpose the funds for that position

Goal 2 - Progress – As of the end date of the period covered by this report, we are in the process of transitioning from the 2009 award funds to this one. No reportable progress at this time.

Goal 3 - Progress- Validation supplies for the DNA Database department’s validation of Powerplex 18D and the 3500xl genetic analyzer have been purchased. Validation is still in progress.

Goal 4 - Progress – This system has been delivered and is in the testing phase. Problems are being identified and resolved.

Goal 5 - Progress - This will be a continuation of a program currently being funded by 2009 award funds. The 2009 funds are very near depletion and transition to use of 2010 funds for this program are in progress at the time of this report.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1 – All seven personnel funded by this award are currently working. Three DNA Analysts and three Serologists are still in training. One Serologist just completed required steps for certification and will be starting casework within a couple of weeks. We anticipate that one of the DNA Analysts will complete his training in about six to eight months and the others will not be far behind that. The other DNA Analyst is overseeing the outsourcing program also funded by this award.

Goal 2 – We recently lowered the number of cases to be worked under this award in an effort to speed the movement of the funds so that we can move on to later awards. We began utilization of this award for in-house analysis of backlogged cases in September 2012 and so far have finalized all reviews on 23 cases, with 13 profiles entered into CODIS. Five (5) hits have resulted from this in-house analysis funded with this award.

Also, 52 additional backlogged cases were worked using supplies funded by this award, resulting in 14 profiles entered into CODIS and 5 hits.

Therefore totals for *in-house* analysis funded by this award are as follows:

Cases worked: $23 + 52 = 75$

Profiles entered into CODIS: $13 + 14 = 27$

Hits: $5 + 5 = 10$

Goal 3 – This goal was changed from funding travel for training to funding supplies for validation. Validation of the Database 3500xl is complete and the Technical Leader is currently

reviewing this data. Approval is expected soon. Validation of the casework instruments is underway and should be completed soon.

Goal 4 – This system has been delivered and is in the testing phase. Problems are being identified and resolved.

The retirement of the Database Lieutenant has presented an unexpected challenge to completion of this project and will likely finalization of this system; but as soon as the successor is named, work will resume.

Goal 5 - This program is a continuation of a program began using funds from previous awards. It continues to meet with terrific success. Cases funded by this award were first sent in July 2012. During the period covered by this report, approximately 210 cases were sent for analysis; and of the ones returned to us, we have reported 89 to the submitter. Outsourced analysis resulted in the entry of 57 profiles into CODIS, and 31 of those entries have resulted in a hit. That translates to an approximate 54% hit rate at this time.

For the total number of cases assisted by funding from this award:

- Outsourced case completions + Cases worked and completed in-house (reported under Goal 2)
 $75 + 89 = 164$
- Profiles entered into CODIS as a result of outsourcing + entries resulting from in-house analysis
 $57 + 27 = 84$
- Hits resulting from CODIS entries as a result of outsourcing + hits resulting from CODIS entries as a result of in-house analysis $10 + 31 = 41$

Goal 6 – We recently submitted and received approval for the purchase of several items that will enable us to fully outfit and complete the final steps associated with the renovation of an area now purposed for a Serology laboratory; and some additional items needed for new hires. As of the writing of this report, the purchase of a refrigerator, PCR enclosures, an alternate light source, stereoscopes, a mobile workstation, scanners, data storage devices, centrifuges, and various other items are all in progress.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1 – All seven caseworking personnel funded (3 DNA analysts, 4 Serologists) by this award are currently working.

Two DNA Analysts and two Serologists are still in training. One DNA analyst just began supervised casework, but as of the end of this reporting period had not yet completed any cases.

The remaining two analysts should begin accepting cases before the end of 2013.

Two Serologists became certified for case analysis during this reporting period and as of the end of the period, had completed Serology analysis on 31 cases. Most of these cases have gone on for DNA analysis and are or will be included in the numbers of cases affected by grant funds during the DNA analysis portion of case completion. Of the 31 cases completed by these serologists, only three cases were negative and did not require DNA analysis – so these three additional cases were completed as a result of these grant funds that are not or will not be included in the previously mentioned metric.

An additional experienced DNA analyst funded by this award is overseeing the outsourcing program outlined in Goal 5. He prepares cases to be sent and tracks all grant-required metrics as well as any others required by SLED administration.

Goal 2 – We began utilization of this award for in-house analysis of backlogged cases using overtime in September 2012 and so far have finalized all reviews on 65 cases, with 31 profiles entered into CODIS. Five hits have resulted from this in-house analysis using overtime funded with this award. There are a few remaining cases worked with this overtime for which analysis is complete but have not yet been finalized due to circumstances outside our control.

An additional 159 cases were worked using grant-funded supplies. Analysis of these cases resulted in 46 profiles being entered into CODIS and 9 additional hits.

The above cases were added to the outsourcing statistics noted in Goal 5 and the math for the number of cases, number of CODIS entries, and number of CODIS hits resulting from grant funding is noted there.

Goal 3 – This goal was changed from funding travel for training to funding supplies for validation. Validation of Powerplex 18D amplification kits and the 3500xl genetic analyzer for the Database Department is complete. Validation of the casework instruments is underway and should be completed soon.

Goal 4 – This system has been delivered and is in the testing phase. Problems are being identified and resolved.

Goal 5 - This program is a continuation of a program began using funds from previous awards. It continues to meet with great success. Cases funded by this award were first sent in July 2012. During this reporting period, approximately 329 cases were sent for analysis. We resulted 263* cases to our submitters during this reporting period. The portion of this program funded by this award resulted in 184 CODIS entries, resulting in 60 CODIS hits.

* It should be noted that the number of cases resulted to submitters is what we include in the metric reporting table - this number includes some cases that were actually sent earlier. We recognize that cases are not considered complete until reported to the submitter, but offer a few additional numbers to demonstrate the ongoing function of the program.

The number of cases affected by funding from this award (totals from Goal 2 and 5):

- 1) Number of cases analyzed using grant-funded overtime + Number of cases analyzed using grant-funded supplies + Number of cases outsourced using grant funds:

$$65 + 159 + 263 = 487$$

- 2) Number of profiles entered into CODIS as a results of funding from this award:

$$31 + 46 + 184 = 261$$

- 3) Number of CODIS hits generated as a result of funding from this award:

$$5 + 9 + 60 = 74$$

Goal 6 – We have completed the purchase of several items that finished fully outfitting and completed the final steps associated with the renovation of an area now purposed for a Serology laboratory; and some additional items needed for new hires. As of the writing of this report, the purchase of a refrigerator, PCR enclosures, an alternate light source, stereoscopes, a mobile workstation, scanners, data storage devices, centrifuges, and various other items, have all been completed and the items are in use by staff members.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1 – All seven caseworking personnel funded (3 DNA analysts, 4 Serologists) by this award are currently working.

Two DNA Analysts and two Serologists are still in training. One DNA analyst will soon complete supervised casework, and has completed some cases. All cases completed by this analyst were included in the casework metrics. The remaining two analysts are currently the

final steps required for certification. It is anticipated that they will be certified by November 30, 2013.

Two grant-funded Serologists continue to screen cases for the DNA section (focusing on Sexual Assault cases)

and completed Serology analysis on 89 cases during this reporting period. Most of these cases have gone on for DNA analysis and are or will be included in the numbers of cases affected by grant funds during the DNA analysis portion of case completion. Of the 89 cases completed by these serologists, 16 cases were negative and did not require DNA analysis – so these additional cases were completed as a result of these grant funds that are not or will not be included in the previously mentioned metric.

An additional experienced DNA analyst funded by this award is overseeing the outsourcing program outlined in Goal 5. He prepares cases to be sent and tracks all grant-required metrics as well as any others required by SLED administration.

Goal 2 – During this reporting period we finalized 7 cases worked using overtime, with 6 profiles entered into CODIS. This resulted in an additional 3 hits from this in-house analysis using overtime funded with this award. There are a couple of remaining cases worked with this overtime for which analysis is complete but have not yet been finalized due to circumstances outside our control.

During this reporting period, an additional 69 cases were worked using grant-funded supplies. Analysis of these cases resulted in 27 profiles being entered into CODIS and 8 additional hits.

Summary of cases worked in house for this reporting period:

Cases worked with grant funded supplies or overtime: $69 + 7 = 76$

Profiles entered into CODIS as a result of grant funded supplies or overtime: $27 + 6 = 33$

CODIS Hits as a result of grant funded supplies or overtime: $8 + 3 = 11$

The above cases were added to the outsourcing statistics noted in Goal 5 and the math for the total number of cases, number of CODIS entries, and number of CODIS hits for this reporting period as a result of grant funding is noted there.

Goal 3 – This goal was changed from funding travel for training to funding supplies for validation. Validation of Powerplex 18D amplification kits and the 3500xl genetic analyzer for the Database Department is complete. Validation of the casework instruments is underway and should be completed soon.

Goal 4 – This system has been delivered and is in the testing phase. Problems are being identified and resolved.

Goal 5 – Outsourced analysis funded by this award was initiated in July 2012. Since the last reporting period, no additional cases have been sent, as analysis would not have been completed by the end of the award period. However, 86 cases were reported to our submitters during this reporting period. The portion of this program funded by this award resulted in 137 CODIS entries during this reporting period. Additionally, 89 CODIS hits occurred during this reporting period as a result of funding from this award (some of these hits were a result of entries reported on previous reports).

It should be noted that the number of cases actually resulted to submitters is the number reported. The outsourcing coordinator has set up the Excel worksheet used for tracking project information to update a dashboard live as he completes each phase of outsourcing these cases; therefore, some numbers may appear higher than they should – for example in this reporting period we are reporting that significantly more profiles were entered into CODIS than cases completed. A few of these may be because more than one CODIS eligible profile was entered for a few cases;

however, the main reason is that the technical review has been completed on cases which allows for CODIS entry, but the final administrative review has not yet been completed, thus the cases are not reported as complete because as of the end of the reporting period, the submitter did not yet have the report.

Summary of outsourced cases:

Cases completed: 86

CODIS Entries: 137

CODIS hits: 89

The total number of cases affected by funding from this award during this reporting period (totals from Goals 2 and 5):

- 1) Number of cases analyzed using grant-funded supplies + Number of cases analyzed using grant-funded overtime + Number of cases outsourced using grant funds:
 $69 + 7 + 86 = 162$
- 2) Number of profiles entered into CODIS as a result of funding from this award:
 $27 + 6 + 137 = 170$
- 3) Number of CODIS hits generated as a result of funding from this award:
 $8 + 3 + 89 = 100$

Goal 6 – During this reporting period, we completed the purchase of an EZ1xl extraction robot for the casework laboratory. We have already completed the necessary performance check on this instrument (along with another one previously purchased for the Database lab, but redirected to the casework lab), and they are both currently in use for case analysis. Plate centrifuges were purchased for the Database and Casework labs to increase capacity and replace one that had malfunctioned and was not repairable. A BSD punch was purchased for the Database lab to increase capacity in anticipation of an increased influx of new samples as a result of implementation of arrestee legislation.

FINAL REPORT:

Goal 1 - To fund a total of eight positions in the DNA Laboratory, to include four analysts (one to oversee outsourcing and three to perform casework), and four Serologists.

This goal was met and we will soon be enjoying increased throughput resulting from the additional personnel funded by this award. We have three grant funded analysts, one of which recently started accepting cases and two who are currently completing the final stages prior to certification. Four Serologists are working, with two fully certified for Serology and Evidence Processing and two more who are in the final stages before certification.

The Serologists funded by this award have completed screening on 120 cases, with all but 19 of them going on for DNA analysis. These Serologists send the evidence to DNA with a sample from the evidence in the tube ready for analysis, saving the DNA analyst valuable time. For now, the Serologists are focusing on sexual assault cases awaiting screening. Our goal is ultimately to screen all sexual assault cases within 7-10 days of their arrival in the lab.

This award also funded an additional experienced analyst to oversee and direct our outsourcing program. The ability to fund this position has been a huge benefit for the department as oversight of an outsourcing program is a very time-consuming task. This position has allowed the DNA analysts to focus more on working cases.

Goal 2 - To analyze at least 160 cases in-house using overtime or supplies funded by this award.

This goal was met. Funds from this award allocated for supplies and overtime to analyze cases in-house totaled:

375 cases completed - 280 cases were affected by grant-funded supplies and 95 cases were analyzed using overtime

137 CODIS entries - 66 CODIS entries were a result of grant-funded supplies and 71 were from cases analyzed using overtime

35 CODIS hits – 18 CODIS entries were a result of grant-funded supplies and 17 were from cases analyzed using overtime

Goal 3 – This goal was changed from funding travel for training to funding supplies for validation

Validation of the 3500xl with Powerplex in the Database Department has been completed using supplies funded by this award. Validation of the casework 3500xl is currently underway and is slated to be complete by December 31. Needed updates for GeneMapper IDx and the conversion to Widows 7 computers have presented challenges for the completion of this project.

Goal 4 – To purchase MorphoTrack system for the Database department

This project has met with challenges as the system is not yet completely working as promised.

The Database department is working diligently with the vendor and our IT personnel to troubleshoot the system and hopefully it will be working better very soon.

Goal 5 - Outsourcing of Property Crimes –

This goal was met and this project continues to enjoy ongoing success. As a result of funding to hire someone to oversee the outsourcing program; we have a stable, well-managed program with accurate Excel-based live updating for metrics separated by award year and reporting period.

To date a total of nearly 1800 cases have been sent to vendors for DNA analysis for this outsourcing program (funded over multiple awards). These are cases that would otherwise continue to languish in our backlog. The SLED DNA Casework department does trainings in DNA collection and case submission around the state; and when we go to local agencies to do this training, the local officers not only tell us how happy they are that these cases are getting done, some of them even have a favorite vendor!

Funds from this award paid for the outsourced analysis of a total of 496 cases – 28 of these cases had additional evidence outsourced for a total of 524 outsourced analyses. All have been resulted to us, with 438 cases reported to the submitting agency as of the date of this report.

Twenty (20) supplemental reports have been completed as a result of the additional submissions for a total for 458 reports completed to date. We are reporting 438 cases in the metrics, as this represents the number of *different* cases reported to the submitting agency. The remaining 38 cases are in some stage of internal review and will be reported to the submitting agencies soon.

This outsourced analysis has resulted in a total of 352 *cases* returned with CODIS eligible profiles. Some of these cases resulted in multiple eligible profiles, so a total of 376 *profiles* were entered into CODIS as a result of outsourced analysis funded by this program. These CODIS entries resulted in 180 CODIS hits to date. That means that of the profiles entered into CODIS approximately 47% resulted in a CODIS hit.

In summary, funds from this award allocated for outsourcing of backlogged cases allowed for the following:

438 cases completed

376 CODIS entries

180 CODIS hits

Summary table for cases directly affected by grant funds from this award (Goals 2 and 5):

Aspect of funding	Cases worked	CODIS Entries	CODIS Hits
Supplies	280	66	18
Overtime	95	71	17
Cases outsourced	438	378	142
Total	813	515	177

Goal 6 – To purchase various items of equipment and instruments needed for new hires, to finalize functionality of newly renovated Serology laboratory, to increase capacity in the Database laboratory, and maintain capacity in the Casework lab.

Funding from this award has enhanced our capacity as it allowed us to fully outfit the newly renovated Serology area (funded on a previous award) with an alternate light source that is mounted on a mobile workstation. The mobility allows the staff to utilize it without requiring a separate room thus giving us maximum utilization. Two additional PCR enclosures were purchased, allowing for each Serologist to have their own workstation. This is important for maximum productivity. We purchased stereoscopes for both the Serology and DNA Casework sections to enhance our ability to determine the suitability for hair analysis. The units purchased have cameras attached allowing for more complete documentation of hair evidence. An additional refrigerator was also purchased to allow for proper storage of evidence and reagents in the work area. Printers were also added to complete the functionality of the area.

Our three oldest EZ1's were retired due to needing frequent repairs. These funds allowed us to purchase a new EZ1xl. We redirected another one purchased for the Database department to the Casework lab and now both are fully functional and in use. These funds allowed for the purchase storage containers for DNA evidence, and replace outdated printers in the DNA Casework and Database departments.

A new BSD Punch was purchased for the Database lab. The original one is still in use, but is aging and duplication of this instrument and increased capacity is important to maintain functionality as sample submissions increase as we implement all arrestee collections.

In summary, this award was very beneficial for the SLED DNA Database and Casework laboratories, with all aspects allocated for activities and equipment to assist us in dealing with an ever-increasing influx of cases.

FY10 Recipient Name: South Dakota Office of the Attorney General

Award Number: 2010-DN-BX-K175

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

Goal #1 - With NIJ funding, the SDFL will continue general casework capacity. Progress - Goal #1 is still pending.

Objective #1 - purchase DNA supplies needed to analyze evidence for DNA and enter all eligible DNA profiles into CODIS.

Objective #2 - send 4 DNA examiners to continuing education training in Chicago, IL in 2011.

Objective #3 - replace existing computer hardware for RT-PCR quantitation and 310 Genetic Analyzers, as well as replace the CODIS server and workstation. All current hardware is at least 5 years old.

Objective #4 - purchase additional and replace existing old microcentrifuges to allow concurrent DNA purification by multiple personnel.

Goal #2 - Continue purchasing DNA database collection kits for qualifying arrested felons and enter those profiles into CODIS.

Progress - Goal #2 is still pending.

Objective #1 - purchase DNA database collection kits so all arrested felony offenders DNA can be submitted to CODIS per South Dakota state statute.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1 - Progress - Goal #1 is still pending.

Goal #2 - Progress - Goal #2 is still pending.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Funds from this grant were not used in this reporting period as funds from the 2009 DNA Backlog Reduction Grant were still being used.

Goal #1 - Goal #1 is still pending as we have not started using the funding from the 2010 grant.

Goals #2 - Goal #2 is still pending as we have not started using the funding from the 2010 grant.

GAN #1 – approved 03/11/11 – Change POC and Alternate POC

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The number of backlogged forensic DNA cases at the beginning of the award period was an overall backlog number and the number of backlogged cases pending completion 30 days after submission was not available. The number of backlogged forensic DNA cases for this progress report period and future report periods will only count those cases pending completion 30 days after submission.

FY09 DNA Backlog Reduction Program funding was expended by the end of September, 2011.

Goal #1, Objective #1 – During this reporting period, the following supplies were ordered and received: Identifiler Plus kits, Quantifiler kits, POP-4 polymer, GS500 LIZ size standard, Matrix standards, and Phenol:Chloroform:Isoamyl Alcohol. These supplies were used to perform DNA analysis of evidence so that eligible DNA profiles could be entered into CODIS. Filters were also ordered and received for the water system that provides purified water for DNA solutions.

There was no progress on Goal #1, Objectives #2, #3, or #4, or Goal #2, Objective #1 in this reporting period.

GAN #2 – approved 11/03/11 – Removal of Special Conditions Related to Programmatic Requirements Withholding Funds

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal #1, Objective #1 – is in progress. During this reporting period, the following supplies were purchased: Identifiler Plus kits, Quantifiler kits, POP-4 polymer, GS500 LIZ size standard, and Matrix standards. These supplies were used to perform DNA analysis of evidence so that eligible DNA profiles could be entered into CODIS.

Goal #1, Objective #2 – is in progress. Other funding used to send 1 DNA examiner to continuing education training in Chicago, IL in 2011. Additional opportunities for DNA

examiners to attend continuing education training in 2012, such as the Midwestern Association of Forensic Scientists Meeting in Milwaukee, WI.

Goal #1, Objective #3 – During this reporting period, computer supplies for a new CODIS server and 3 CODIS workstations were purchased. Previous hardware was over 5 years old and upgrades were necessary for conversion to CODIS 7.0.

Goal #1, Objective #4 – is still pending. There was no need to purchase another microcentrifuge during this reporting period. Will re-evaluate purchasing options over next reporting period.

Goal #2, Objective #1 – is still pending. There was no need to order DNA database collection kits during this reporting period. Will re-evaluate purchasing options over next reporting period.

GAN #3 - approved 3/5/12 - Change Project Period - new project end date is 3/31/2013

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal #1 – With NIJ funding, the SDFL will continue general casework capacity.

Goal #1, Objective #1 – This objective is in progress. During this reporting period, the following supplies were purchased: Quantifiler kits, POP-4 polymer, GS500 LIZ size standard, Matrix standards, Microcon concentrators, and sample tubes. These supplies were used to perform DNA analysis of evidence so that eligible DNA profiles could be entered into CODIS. Supplies purchased from the 2010 DNA Backlog Reduction Program allowed us to analyze 40 cases and upload 10 DNA profiles into CODIS.

Goal #1, Objective #2 – Other source of funding used to send 1 DNA examiner to continuing education training in Chicago, IL in 2011, so this objective is no longer applicable. GAN pending to transfer from “Travel” funds to “Equipment” funds.

Goal #1, Objective #3 – This objective has been completed. We were able to update CODIS equipment for the conversion to CODIS 7.0.

Goal #1, Objective #4 – This objective is still pending as we are currently evaluating equipment needs. Plans are to purchase an alternate light source for screening DNA evidence and upgrade our microscope equipment.

Goal #2 – Continue purchasing DNA database collection kits for qualifying arrested felons and enter those profiles into CODIS.

Goal #2, Objective #1 – This objective is in progress. 10,000 DNA collection kits were ordered in December 2012, for a total cost of \$36,823.68. These kits will allow us to collect DNA samples from individuals arrested and/or convicted of a felony and upload those DNA profiles into CODIS.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal #1 – With NIJ funding, the SDFL will continue general casework capacity.

Goal #1, Objective #1 – This objective was completed. During this reporting period, the SDFL purchased DNA extraction and analysis supplies. These supplies were used to perform DNA extraction and analysis of evidence so that eligible DNA profiles could be entered into CODIS. Supplies purchased from the 2010 DNA Backlog Reduction Program allowed us to analyze 30 cases and upload 7 DNA profiles into CODIS.

Goal #1, Objective #2 – Other source of funding used to send DNA examiners to continuing education.

GAN #4 (see below) allowed us to move funds from this objective to purchase Crime Lights and Microscope Camera to help improve efficiency and streamline examinations in our Serology section, thus leading to faster DNA analysis of evidence.

Goal #1, Objective #3 – This objective was completed. We were able to update CODIS equipment for the conversion to CODIS 7.0.

Goal #1, Objective #4 – This objective was completed. We purchased a new microcentrifuge to replace one that had become unusable. We also purchased a new Crime Light to help streamline examinations of clothing and bedding for biological material suitable for DNA analysis. We also purchased a camera for our microscope to help streamline microscopic examinations of sperm cell searches.

Goal #2 – Continue purchasing DNA database collection kits for qualifying arrested felons and enter those profiles into CODIS.

Goal #2, Objective #1 – This objective was completed. Supplies to assemble 10,000 DNA collection kits were ordered and received. These kits will allow us to collect DNA samples from individuals arrested and/or convicted of a felony and upload those DNA profiles into CODIS.

GAN #4 – approved 1/16/13 Budget Modification – move funds in accordance with actual expenditures and permission to purchase Crime Lights and filter, along with microscope camera. Changes required completion of DNA Budget Detail Worksheet and Narrative – with validation overtime.xlsx.

GAN #5 – approved 2/1/13 Change Alternate POC

GAN #6 – approved 3/6/13 Change Project Period – new project end date is 5/31/2013

FINAL REPORT:

There were two primary goals set for this award. The first was to purchase supplies to allow the SDFL to continue general casework responsibilities. Currently, the SDFL has six people in its Biology Section, three trained DNA analysts and three trained Serology examiners. At the beginning of the award period, the SDFL had three DNA analysts and one trained Serology examiner. The trained Serology examiner we had at the beginning of the award period has since left and we now have three new individuals. A high turnover rate has led to a rather consistent turnaround time and DNA backlog throughout the course of this grant. The three trained DNA analysts working at the beginning of the award period are still the only three DNA analysts working at the end of the award. Due to additional duties, one is Biology Section Supervisor, one is DNA technical leader, and one is State CODIS Administrator, the three DNA analysts share time between casework and administrative/technical duties. This along with a concerted effort to limit the numbers of items tested/case may contribute to the decrease in samples analyzed per analyst per month from 40 at the beginning of the award period to 28 at the end of the award period. Grant funds did allow the SDFL the resources to upload 78 DNA profiles into CODIS which resulted in 40 CODIS hits. Throughout the span of this award, the SDFL was able to purchase DNA supplies allowing us to extract and analyze evidence samples for DNA analysis. The SDFL was able to purchase computer upgrade equipment that allowed us to effectively make the upgrade to CODIS 7.0. Lastly, we were able to purchase new equipment with these funds. The SDFL purchased a new microcentrifuge, a new Crime Light, and a camera with a monitor for our microscope. All are helpful in streamlining our examinations and analysis, making the Biology section more efficient.

The second goal was to continue purchasing DNA database collection kits for qualifying arrested felons and enter those profiles into CODIS. We were able to purchase supplies to assemble 10,000 DNA collection kits, making possible the collection of DNA database samples from those individuals arrested and/or convicted of a felony in South Dakota.

The total amount for this award was \$150,000. Our goal was to use these funds to make the SDFL Biology section more efficient, and to allow us the capability to maximize our DNA capabilities and upload eligible DNA profiles into CODIS. This grant was used primarily to purchase supplies and equipment to accomplish that. Our main obstacle has always been to train and keep qualified DNA examiners. A high turnover rate has caused the Biology section to struggle in the past few years, and that appears evident in looking at the stats over the course of the award period. Our hope is to continue DNA casework with the three trained individuals we currently have along with training two of our Serology examiners to do DNA casework as well. That, along with a recently purchased Genetic Analyzer, should help us to increase our capacity to complete DNA cases. This goal, along with how we implement these new changes, will be paramount to our success. The funds awarded in this grant have allowed us the opportunity to continue DNA casework during this transition so that we may focus on long term goals and capacity improvement for the SDFL Biology Section.

FY10 Recipient Name: Tennessee Bureau of Investigations

Award Number: 2010-DN-BX-K098

Award Amount: \$2,069,661

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To purchase all supplies and reagents for the three DNA units for the entirety of the grant length.

Goal 2 -To pay overtime for existing scientists to maintain the existing backlog, then to begin a reduction of backlogged cases in conjunction with other measures outlined.

Goal 3 - To outsource casework samples for DNA analysis to decrease the number of backlogged cases (primarily the increased number of Nashville and Memphis cases) and lower case turnaround.

Goal 4 - To maintain the current instrumentation, existing document control system and video conference system for the three crime laboratories.

Goal 5 - To fund mandatory training for existing DNA analysts and to purchase supplies to aid in the training of new employees.

Goal 6 - To hire contract employees to aid in the screening of casework, primarily the increased number of cases from the cities of Nashville and Memphis, to reduce the amount of backlogged cases and lower case turnaround.

Goal 7 - To purchase equipment for use by new employees, to upgrade existing instrumentation and to replace existing, aging units.

Goal 8 – Renovation of a portion of the Nashville DNA laboratory to remove two unused biohoods to increase working area of the unit.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1: In this reporting period, no supplies were purchased with this award. Funds for supplies and reagents during this period were used from the 2008 DNA Backlog Reduction grant (2008-DN-BX-K041), until that grant was exhausted at the end of calendar year 2010

Goal 2: In this reporting period, overtime funds from this award were not used. Overtime funds during this period were paid to scientists from the 2008 DNA Backlog Reduction grant (2008-

DN-BX-K041), until that grant was exhausted at the end of calendar year 2010.

Goal 3: In this reporting period, no progress has been made on this goal.

Goal 4: In this reporting period, the existing video conference system maintenance contract has been renewed, while the majority of current instrumentation is maintained under the 2009 DNA Backlog grant (2009-DN-BX-K077). Maintenance contracts will be moved to this award in the calendar year 2011.

Goal 5: In this reporting period, funds from this award have been used to purchase textbooks for use by new hires for training purposes and for refresher/additional training by existing staff. Funds for mandatory training will begin to be used in the calendar year 2011.

Goal 6: In this reporting period, the two of the four, planned contract screeners have been located and plans are in place and under way to have the screeners in place by early 2011.

Goal 7: In this reporting period, numerous purchases have been made under this goal. 1.) Upgrades from Mac to PC have been purchased for the remaining two Mac-based 310 Genetic analyzers; 2.) A Leica microscope has been purchased for a new employee in the Knoxville DNA unit; 3.) Sony DSC-HX1 cameras (four) have been purchased for new employees and to replace malfunctioned units; 5.) The process of ordering new computer hardware and software to replace aging CODIS servers and workstations in all three laboratories is underway;

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1: All supplies and reagents purchased during these six months were from funds under this award, inclusive of CODIS collection kits (Convicted Offender and Arrestee).

Goal 2: All overtime monies paid during these six months were from funds under this award.

Goal 3: Outsourcing of casework is removed as a means of completing casework from this award. These funds have been redistributed to other future contract items and equipment.

Goal 4: No maintenance contracts were funded during this reporting period; however, actions have begun to renew contracts during the next reporting period.

Goal 5: Three scientists have been sent to training in Chicago, IL (63rd AAFS), three to San Antonio, TX (AFDAA), one to San Diego, CA (Bode Advanced DNA Workshop), one to Largo, FL (DNA Mixture Interpretation Workshop). Additionally, two scientists have been registered for training in Burlington, VT (Green Mountain DNA Conference).

Goal 6: Three contract employees have been hired and are independently screening casework and issuing reports (2 employees) or working in a technician role screening evidence under the supervision of casework analysts (1 employee). The Nashville contract employee, a former analyst with 9 years' experience, was hired in March and began independent casework in May. The Knoxville contract employee, a former TBI DNA analyst in that lab who had left and returned under the grant, was hired in April and is currently working in a technician role under the supervision of casework analysts. The Memphis contract screener, also a former TBI DNA analyst who had left and returned under the grant, was hired in June and began working in a technician role, but has now begun independent casework. Unforeseen difficulties caused this employee to not begin working for at least two months. To date, the three contract employees have screened/assisted in the processing of 87 cases.

Goal 7: Additional purchases/repairs have been made under this award:

1. A new water purification system was purchased to replace a failing unit in the Nashville lab.
2. Eight new freezers were purchased to replace failed and failing units in the Nashville (5 freezers) and Knoxville (3 freezers) labs.

3. All CODIS replacement computer hardware and software has been purchased and is awaiting delivery.
4. A failing Qiagen EZ1 Biorobot was repaired.
5. A new 96-well silver block was purchased to replace a failed part on a 9700 thermalcycler in the Nashville lab.
6. Two Leica microscopes were repaired in the Memphis lab.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: All supplies and reagents purchased during these six months were from funds under this award, inclusive of CODIS collection kits (Convicted Offender and Arrestee).

Goal 2: All overtime monies paid during these six months were from funds under this award.

Goal 3: Outsourcing of casework is removed as a means of completing casework from this award. These funds have been redistributed to other future contract items and equipment.

Goal 4: Maintenance contracts were funded during this reporting period for all 310 Genetic Analyzers and all qPCR instruments (AB 7000 and 7500).

Goal 5: Two scientists have been sent for training at the Green Mountain DNA Conference in Burlington, VT, two to Washington, DC (Promega 22nd Int'l Symposium on Human Identification) and one to Chicago, IL (Applied Biosystems 11th Annual Future Trends in Forensic DNA Technology).

Goal 6: A fourth contract employee was hired to round out the fourth contract position. This fourth employee is the retired supervisor of the Nashville DNA unit and is being used to revise procedures and protocols for the DNA unit. He may be used for casework in the future when all rewriting and revamping is complete. As for now, his employment is saving casework scientists time on the bench by being allowed to concentrate on casework instead of protocol revision. To date, the three contract employees have screened/assisted in the processing of 338 cases.

Goal 7: Additional purchases have been made under this award:

1. Additional robotic extraction units, Qiagen EZ1 Advanced XL Biorobots, upgrades of the existing models being used in all laboratories, were purchased for all three DNA units across the state.
2. Two additional 9700 thermal cyclers were purchased for the Nashville DNA unit.
3. Three sets of pipettors, Finnpiptettes, were purchased (one for use in the Nashville DNA unit and two for use in the Memphis DNA unit).
4. Four thermoshakers were purchased for use in the Nashville DNA unit, to be used in conjunction with the EZ1 Biorobots.
5. Evaluations are being conducted on an additional extraction robot, Qiagen QIAcube, for use with differential extractions, with an option for purchase for all three laboratories in the state.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Supplies and reagents were purchased from funds under this award, inclusive of CODIS collection kits (Convicted Offender and Arrestee) until April of this reporting period.

Goal 2: Funds from this award were used to pay for overtime through April of this reporting period.

Goal 3: Outsourcing of casework was reinstated as a means of completing casework from this award. 501 sexual assault cases from Metro Nashville Police Department were outsourced to

Orchid Cellmark for analysis during this reporting period. The full results of this outsourcing project will be completed in the next reporting period.

Goal 4: Maintenance contracts were funded during this reporting period for all 310 Genetic Analyzers and all qPCR instruments (AB 7000 and 7500).

Goal 5: Two scientists have been sent for training to a West Coast Bode Technology DNA Mixture workshop in San Diego, CA, one scientist-in-training from the Memphis DNA lab was sent to the headquarters lab in Nashville for a week of DNA training and seven scientists, including five scientists-in-training, were sent to the Center for Forensic Excellence at the University of North Texas for a one-week specialized training with current and future instruments used by the DNA labs.

Goal 6: Five contract employees were funded during this award period, with a sixth hired at the end of the reporting period in mid-June. During this reporting period, contract employees worked, or assisted in working, 374 cases (both screening and DNA). Also during this reporting period, one contract employee began DNA casework, as allowed under the FBI's Quality Assurance Standards. This employee worked 23 DNA cases during the reporting period.

Goal 7: Additional purchases have been made under this award:

CODIS hardware/software was purchased under this award to replace aging hardware and to upgrade software for the anticipated upgrade from CODIS 5.74 to CODIS 7.0. To meet this, new server and workstations (6) were purchased.

Additionally, issues developed with the existing CODIS server, resulting in a crashing of the state system. Funds from this award were used to have the hard disk drives from the existing CODIS server analyzed by Seagate and data recovered from four of the five drives to bring the system back on-line.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: No supplies and reagents were purchased from funds under this award during this reporting period. All supplies and reagents were purchased with funds from another source.

Goal 2: No overtime was paid from funds under this award during this reporting period. All overtime was paid with funds from another source.

Goal 3: All cases from the Metro Nashville Police Department which were outsourced for screening to Cellmark Forensics (formerly known as Orchid Cellmark) have been completed by that vendor lab. Of the 502 cases worked by the vendor lab, 439 have been reviewed, with TBI reports issued, by staff of the TBI crime lab. The review of the remaining 63 cases will be completed during the next reporting period.

These cases were outsourced to a vendor lab for screening. After issuance of completed reports, any cases requested by the submitting agency for follow-on analysis will be worked within the Nashville DNA unit with grant-funded supplies. Any applicable profiles will then be uploaded to NDIS.

Goal 4: No maintenance contracts were paid from funds under this award during this reporting period. All maintenance contracts were paid with funds from another source.

Goal 5: Funds from this award were used to pay registration fees for thirteen scientists to attend the Promega International Symposium on Human Identification in Nashville, TN, in October of this reporting period.

Goal 6: No contracted employees were paid from funds under this award during this reporting period. All contracted employees were paid with funds from another source.

Goal 7: Additional purchases have been made under this award:

1. Three PCR enclosures, five sets of pipettors (Finnpipettes), 10 electronic pipettors (Handystep), five vortex mixers and seven mini-centrifuges were purchased to create three new DNA extraction/amplification stations and replace aging equipment in two existing DNA extraction/amplification stations, as well as other areas of the laboratory.
2. Four additional thermoshakers were purchased for use in the Nashville DNA unit, to be used in conjunction with the EZ1 Biorobots.
3. Updated Driftcon temperature verification system probes were purchased for the Nashville and Memphis DNA units. These probes allow the Driftcon unit to be used with both qPCR systems (7000 and 7500), as well as the 9700 thermalcyclers without the need of changing probes. Previously, only the Knoxville lab had this necessary probe and it was required to ship it from one lab to the next.

Goal 8: The renovation has been bid out, but will not be completed during this reporting period.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1: To purchase all supplies and reagents for the three DNA units for the entirety of the grant length.

Goal Completed Previously – No supplies and reagents were purchased from funds under this award during this reporting period. All supplies and reagents were purchased with funds from another source.

Goal 2: To pay overtime for existing scientists to maintain the existing backlog, then to begin a reduction of backlogged cases in conjunction with other measures outlined.

Goal Completed Previously – No overtime was paid from funds under this award during this reporting period. All overtime was paid with funds from another source.

Goal 3: To outsource casework samples for DNA analysis to decrease the number of backlogged cases (primarily the increased number of Nashville and Memphis cases) and lower case turnaround.

Goal Completed This Reporting Period – All cases from the Metro Nashville Police Department which were outsourced for screening to Cellmark Forensics (formerly known as Orchid Cellmark) have been completed by that vendor lab. Of the 502 cases worked by the vendor lab, the remaining 63 cases from the last reporting period were reviewed during this reporting period.

➤ *These cases were outsourced to a vendor lab for screening. After issuance of completed reports, any cases requested by the submitting agency for follow-on analysis will be worked within the Nashville DNA unit with grant-funded supplies. Any applicable profiles will then be uploaded to NDIS.*

Goal 4: To maintain the current instrumentation, existing document control system and video conference system for the three crime laboratories.

Goal Completed Previously – No maintenance contracts were paid from funds under this award during this reporting period. All maintenance contracts were paid with funds from another source.

Goal 5: To fund mandatory training for existing DNA analysts and to purchase supplies to aid in the training of new employees.

Goal Completed Previously – No training or travel was conducted using funds from this award during this reporting period. All training and travel was paid with funds from another source.

Goal 6: To hire contract employees to aid in the screening of casework, primarily the increased number of cases from the cities of Nashville and Memphis, to reduce the amount of backlogged cases and lower case turnaround.

Goal Completed Previously – No contracted employees were paid from funds under this award during this reporting period. All contracted employees were paid with funds from another source.

Goal 7: To purchase equipment for use by new employees, to upgrade existing instrumentation and to replace existing, aging units.

Goal Completed Previously – No additional purchases were made under this award.

Goal 8: Renovation of a portion of the Nashville DNA laboratory to remove two unused biohoods to increase working area of the unit.

The renovation of the Nashville DNA lab began during the reporting period. A majority of the renovation was complete by the end of the reporting period. However, there was a small overlap into the next reporting period. The renovation is expected to be complete in the month of July 2013. Once the renovation project is finalized and paid for, this goal will be complete. The TBI will then submit for reimbursement of the renovation expense under this award. Once that reimbursement is disbursed, funds from this award will be completely exhausted.

This grant award is on schedule to conclude before the current end date of the award. Following final reimbursement, all required reports will be generated so that the closeout process may commence.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1: To purchase all supplies and reagents for the three DNA units for the entirety of the grant length.

Goal Completed Previously – No supplies and reagents were purchased from funds under this award during this reporting period. All supplies and reagents were purchased with funds from another source.

Goal 2: To pay overtime for existing scientists to maintain the existing backlog, then to begin a reduction of backlogged cases in conjunction with other measures outlined.

Goal Completed Previously – No overtime was paid from funds under this award during this reporting period. All overtime was paid with funds from another source.

Goal 3: To outsource casework samples for DNA analysis to decrease the number of backlogged cases (primarily the increased number of Nashville and Memphis cases) and lower case turnaround.

Goal Completed Previously – All cases from the Metro Nashville Police Department which were outsourced for screening to Cellmark Forensics (formerly known as Orchid Cellmark) have been completed by that vendor lab.

Goal 4: To maintain the current instrumentation, existing document control system and video conference system for the three crime laboratories.

Goal Completed Previously – No maintenance contracts were paid from funds under this award during this reporting period. All maintenance contracts were paid with funds from another source.

Goal 5: To fund mandatory training for existing DNA analysts and to purchase supplies to aid in the training of new employees.

Goal Completed Previously – No training or travel was conducted using funds from this award during this reporting period. All training and travel was paid with funds from another source.

Goal 6: To hire contract employees to aid in the screening of casework, primarily the increased number of cases from the cities of Nashville and Memphis, to reduce the amount of backlogged cases and lower case turnaround.

Goal Completed Previously – No contracted employees were paid from funds under this award during this reporting period. All contracted employees were paid with funds from another source.

Goal 7: To purchase equipment for use by new employees, to upgrade existing instrumentation and to replace existing, aging units.

Goal Completed Previously – No additional purchases were made under this award.

Goal 8: Renovation of a portion of the Nashville DNA laboratory to remove two unused biohoods to increase working area of the unit.

Goal Completed This Reporting Period – The renovation of the Nashville DNA lab was fully completed during this reporting period. With the completion of this renovation, the area is now being fully utilized by the DNA unit.

FINAL REPORT:

All of the goals of this award, listed below, have been successfully completed.

Goal 1: To purchase all supplies and reagents for the three DNA units for the entirety of the grant length.

Goal 2: To pay overtime for existing scientists to maintain the existing backlog, then to begin a reduction of backlogged cases in conjunction with other measures outlined.

Goal 3: To outsource casework samples for DNA analysis to decrease the number of backlogged cases (primarily the increased number of Nashville and Memphis cases) and lower case turnaround.

Goal 4: To maintain the current instrumentation, existing document control system and video conference system for the three crime laboratories.

Goal 5: To fund mandatory training for existing DNA analysts and to purchase supplies to aid in the training of new employees.

Goal 6: To hire contract employees to aid in the screening of casework, primarily the increased number of cases from the cities of Nashville and Memphis, to reduce the amount of backlogged cases and lower case turnaround.

Goal 7: To purchase equipment for use by new employees, to upgrade existing instrumentation and to replace existing, aging units.

Goal 8: Renovation of a portion of the Nashville DNA laboratory to remove two unused biohoods to increase working area of the unit.

During the life of this award, which began with 639 backlogged DNA cases, a high of 710 backlogged cases and a low of 339 cases was noted, with an final metric of 381 backlogged DNA cases at the end of the award. Over the entire award period, a total of 4,786 cases were analyzed using funds provided. Using funds from this award, contracted employees were hired to assist existing casework scientists. These contract employees were able to screen or assist in the screening of 767 of the 4,786 cases completed during the life of the award. The hiring of contract employees allowed for more casework to be directly analyzed.

During the analysis of the cases, 892 profiles were uploaded to CODIS with a resulting 139 CODIS hits. Also, casework DNA analysts saw an increase from 28 DNA samples per analyst per month at the start of the award to 42 DNA samples per analyst per month at the end of the award. Outsourcing of cases became necessary when the TBI came into possession of the 502 sexual assault cases from the Metro Nashville Police Department in 2011. All of these cases were sent to Cellmark Forensics for processing in early 2012. If not for funding from this award, the TBI would not have been able to outsource these cases to Cellmark which would have a huge burden to the system in the Nashville DNA unit, causing the backlog and turnaround time to skyrocket.

To assist in the functioning of the DNA unit in the Nashville Crime Laboratory, a room was renovated. The renovation involved the removal of two unused biohoods to increase the useable workspace. This renovation was completed in the last reporting period of the award.

Purchases made using funds from this award were numerous and necessary. Upgrades from Mac to PC were purchased for the remaining two Mac-based 310 Genetic analyzers. A Leica microscope was purchased for a new employee in the Knoxville DNA unit and two microscopes in the Memphis lab were repaired. Four Sony DSC-HX1 cameras were purchased for new employees and to replace malfunctioned units. A new water purification system was purchased to replace a failing unit in the Nashville lab. A total of eight new freezers were purchased to replace failed and failing units. Five (5) freezers were placed in the Nashville lab and three (3) freezers were placed in the Knoxville lab. CODIS hardware/software was purchased under this award to replace aging hardware and to upgrade software for the anticipated upgrade from CODIS 5.74 to CODIS 7.0. A failing Qiagen EZ1 Biorobot was repaired. A new 96-well silver block was purchased to replace a failed part on a 9700 thermalcycler and two additional 9700s were purchased for the Nashville DNA lab. Additional robotic extraction units, Qiagen EZ1 Advanced XL Biorobots, were purchased for all three DNA units across the state. Eight thermoshakers were purchased for use in the Nashville DNA unit, to be used in conjunction with the EZ1 Biorobots.

Additionally, funds from this award were used to have the hard disk drives from the existing CODIS server analyzed by Seagate and data recovered from four of the five drives to bring the system back on-line. Three (3) PCR enclosures, eight (8) sets of pipettors, ten (10) electronic pipettors, five (5) vortex mixers and seven (7) mini-centrifuges were purchased to create three new DNA extraction/amplification stations and replace aging equipment in two existing DNA extraction/amplification stations, as well as other areas of the laboratory. Furthermore, updated Driftcon temperature verification system probes were purchased for the Nashville and Memphis DNA units. These probes allow the Driftcon unit to be used with both qPCR systems (7000 and

7500), as well as the 9700 thermalcyclers without the need to change probes. Previously, only the Knoxville lab had this necessary probe. This purchase prevented the labs from having to share the probe and thus it was no longer necessary to ship it from one lab to the next as it was needed in the regional labs across the state.

The Tennessee Bureau of Investigation utilized 100% of the funding from this award. If not for this funding, all of the above goals, metrics, and needed purchases could not have been achieved. The Tennessee Bureau of Investigation looks forward to our continued partnership with the National Institute of Justice as we continue to strive towards the ultimate goal of reducing the number of forensic DNA and DNA database samples awaiting analysis.

FY10 Recipient Name: City of Austin, Texas

Award Number: 2010-DN-BX-K045

Award Amount: \$182,097

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The goals of this program are:

- 1) Reduce DNA casework backlogs through
 - a) use of overtime
 - b) use of grant-funded supplies
- 2) Improve the throughput of the DNA Section by hiring a laboratory technician
- 3) Provide required continuing education for existing city-funded forensic DNA analysts
- 4) Purchase equipment: freezer/fridge combo, freezer, scanner, printer, server, CODIS software (Added through Budget Modification GAN approved on 4/26/2011)

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The City of Austin progress report for this first semi-annual period does not reflect activity as the FY09 project was still active. The majority of performance metrics responses are N/A (no activity). Performance metrics and a narrative update will be provided in July for the January to June 2011 time period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Semi-Annual Progress Report

January 1 - June 30, 2011

The City of Austin began work under this grant at the beginning of this reporting period. DNA scientists completed DNA analysis on an overtime basis and the City hired an evidence technician to begin improving the throughput of the DNA section. Grant-funded supplies have to be integral in reducing the backlog of DNA casework. Performance measure data for the reporting period is included in the attached semi-annual report.

The goals of this program are to reduce DNA casework backlogs, to improve the throughput of the DNA Section, and to provide required continuing education for existing city-funded forensic DNA analysts.

During the reporting period, city-funded DNA analysts worked on an overtime basis to reduce casework backlogs. Grant-funded supplies were used to analyze DNA evidence samples. All eligible profiles obtained with funding from the National Institute of Justice were entered by the

APD Crime Lab directly to the Combined DNA Index System (CODIS) and, when applicable, to the National DNA Index System (NDIS).

The City hired an evidence technician and the City anticipates a measurable impact on the throughput of the lab by the end of the next reporting period.

Two training opportunities are scheduled for DNA section analysts.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

With funding through the National Institute of Justice FY10 Forensic DNA Backlog Reduction Program, the City of Austin continued to finance staff overtime thereby facilitating progress on DNA casework. During this period, the average number of samples analyzed per analyst per month grew from 26 (in January through June of 2011) to its current level of 31. Additionally, the number of backlogged forensic DNA cases fell from 669 at the beginning of the current reporting period to 555 at its close. This success is, in part, due to the work of the new grant-funded Laboratory Technician.

The Laboratory Technician, hired in October 2011, maintains all equipment, prepares reagents, ensures quality control, restocks work stations, performs evidence retrieval and completes administrative duties. This allows Analysts to focus their time on reducing DNA backlogs. Using grant funding, three DNA section Analysts also attended the International Symposium on Human Identification to keep abreast of current and new technologies and had opportunities to attend seminars on issues such as: “Overview of the FBI’s CODIS Program and NDIS”, “The Biological Aspects of Forensic DNA Phenotyping”, and “194 DNA Exonerations: The First Comprehensive DNA Study of Innocence Network Cases”.

Grant dollars were also applied to the purchase of reagents, a freezer/refrigerator combination used to store and preserve DNA evidence, a scanner that is utilized to scan CODIS information into the police management system, and a printer that aides in the production of DNA profiles, reports and supporting documentation.

FINAL REPORT:

The City of Austin received \$182,097 in FY10 DNA Backlog Reduction Program funds to focus on solving violent crimes citywide. To accomplish this goal, the APD Crime Lab used NIJ funding to implement activities aimed at reducing forensic DNA sample turnaround time, increasing the throughput of the APD Crime Lab DNA Section, and reducing DNA forensic casework backlogs. Program objectives were linked to essential services with measurable outcomes.

Grant funding allowed City-funded DNA analysts to work on an overtime basis for approximately 1,379 hours to perform the initial processing of the evidence (photograph and/or document items as to description, condition, stains detected, and trace evidence identified) and to perform presumptive testing to determine if possible blood or semen stains were present. When probative stains were identified, the analysts collected the stains, packaged them for storage and tracking, and then performed DNA testing.

NIJ funding also allowed for the purchase of supplies needed to complete DNA casework analyses. These supplies allowed for the processing of samples from violent crime cases which in turn allowed for prosecution and conviction of violent criminals. This contributed to the mission of the City of Austin to make our community safer. Supplies were also used for the processing of property crimes which is critical in identifying repeat offenders.

NIJ funding was instrumental in the hiring of an Evidence Technician to improve DNA section workflow. The technician was responsible for making reagents and performing quality control checks on new lots of reagents; performing quality control checks on equipment; maintaining the proper condition of the equipment; monitoring supply inventories; transferring evidence, and performing general housekeeping duties of the laboratory. Having this position has significantly increased the amount of time analysts have to complete casework duties.

In addition to the above benefits, NIJ funding allowed for the purchase of critical lab equipment – including a freezer, backup refrigerator, alternative light source, scanner, and printer – all of which improved the efficiency and proper functioning of the APD Crime Lab.

Lastly, grant funds provided several DNA analysts the opportunity to attend training in their specialty area. Analysts attended an international conference with participants and speakers from many countries. Cutting edge technologies and advances in current techniques were discussed. The information obtained was then shared with the entire DNA section thereby increasing the overall knowledge base of the laboratory.

NIJ FY10 DNA Backlog Reduction Program grant funding resulted in the successful analysis of 419 cases, an increase in the number of samples analyzed per analyst per month – from 26 to 38, and a 27% decrease in DNA backlog cases held by the APD Crime Lab. The 120 eligible DNA profiles obtained with grant funding were entered into the Combined DNA Index System (CODIS). Over the grant period, 30 CODIS hits were attributed to grant funded analysis.

FY10 Recipient Name: University of North Texas Health Science Center

Award Number: 2010-DN-BX-K119

Award Amount: \$785,138

Final Report: GOALS AND OBJECTIVES OF PROJECT:

The University of North Texas Center for Human Identification (UNTCHI) Laboratory functions as an adjunct laboratory for the Texas Department of Public Safety State Crime laboratory.

UNTCHI has provided DNA analysis to law enforcement agencies within the state of Texas for sexual assault and homicide cases. Primarily, the laboratory has served as a local crime laboratory for the city of Fort Worth and the Tarrant County District Attorney's Office, performing DNA testing and providing expert testimony on cases involving sexual assault, murder, non-negligent manslaughter, and aggravated assault as well as a few other UCR part 1 crime cases. UNTCHI has also provided testing and review of cases within the state that require familial and/or kinship analysis.

Mitochondrial DNA cases and sexual assault cases involving products of conception or questions of paternity are automatically referred to UNTCHI by the Texas Department of Public Safety. Autosomal STRs, mini- autosomal STRs (AB MiniFiler™ System), Y STRs (AB Y-Filer™ System), and mitochondrial DNA testing have all been validated and are routinely performed at the UNTCHI Laboratory. The mini-autosomal STRs and Y STR systems are technologies that were validated at UNTCHI to improve overall service to both the local and state wide community in processing difficult casework samples. Many cases involving degraded samples or samples with low level male contributors that cannot be detected with traditional autosomal STR systems have benefited from these types of testing. UNTCHI continues to work with both law enforcement and prosecuting agencies to select only the most probative samples for DNA testing. This not only provides education to our submitting agencies, but has increased laboratory productivity and stretched the federal funds received across a larger number of cases. The

laboratory has implemented a system with our local District Attorney's office to prioritize cases with grand jury indictments. This system ensures that DNA test results have been issued before impending trial dates and prevents any unnecessary court case continuances due to delays in DNA testing.

At the beginning of this grant award period, October 1, 2010, UNTCHI had 20 backlogged forensic cases. At the beginning of this grant award period the types of cases received were as follows:

- Thirty-six percent of the cases were sexual assault kits requiring serological screening prior to DNA analysis.
- Nineteen percent of the cases were property crimes
- Seventeen percent of the cases were forensic paternity.
- Fourteen percent of the cases were homicides.
- Eight percent of the cases were robberies
- Three percent of the cases were aggravated assault
- The remaining three percent was distributed among other UCR Part 1 Crimes
- The average turn-around time from the date a case was received to the date a report was issued to the submitting agency was 82 days at the beginning of this grant period.

Project Goals

The goals of this project are two-fold:

1. Increase the number of cases completed for all part 1 violent crimes.
2. Reduce the number of days between the submission of a DNA sample and the delivery of results, increasing the average number of samples analyzed per analyst per month, reducing the number of backlog cases and increasing the number of cases entered into CODIS.

In order to achieve our goals, several objectives must be completed. The objectives of this award include:

1. Accession, screen and/or analyze a total of 650 cases over the 18 month grant period.
2. Reduce the average turn-around time to 120 days.
3. Increase the number of samples analyzed per analyst per month to 50.

To achieve the objectives for this award, we will continue to sustain the following:

- Maintain 4 forensic DNA analysts, 1 forensic DNA technologist, and a half time evidence custodian.
- Purchase 4 additional computers
- Purchase the appropriate reagents and supplies required for maximum efficiency
- Provide training and continuing education for the DNA analysts
- Continue to upgrade the Laboratory Information Management System (LIMS)

With the achievement of this award's goals and objectives, the number of cases completed and entered into CODIS will increase. The average turn-around time reported by UNTCHI includes many cases that are completed for the Department of Public Safety Crime Laboratory as well as other Texas Law enforcement agencies. These cases often require mtDNA analysis or include the analysis of highly degraded, low quality samples. It is these cases/samples that can inflate our average time due to the complex nature and the additional DNA technologies required other than traditional STRs. Even with these obstacles, we still intend to continue to keep our turn-around times at low levels.

The backlog at the beginning of this grant award, October 1, 2010, was 20 cases. Backlogs can also vary due to circumstances beyond our control such as case type and composition of evidence received. Backlogs are directly tied to the time and number of cases that can be

completed. Again, the more difficult it is to recover DNA and the higher the number of compromised samples, the longer it takes to remove the case from active to complete. With our current projections, UNTCHI expects to complete a minimum of 650 cases and approximately 2,600 samples over the 18 month period of the award keeping our backlogged cases at a minimum.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

We are currently operating with funding provided through the FY09 DNA Backlog Reduction Award, 2009-DN-BX-K058. None of the funds associated with our FY10 award have been expended.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

There is no progress to report or summarize for this grant award since we are currently operating with funding provided through the FY09 DNA Backlog Reduction Award, 2009-DN-BX-K058. None of the funds associated with our FY10 award has been expended.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The reporting period for this award is July 1, 2011 through December 31, 2011; however, the utilization of these funds began on September 1, 2011. The metrics reported in this semi-annual report were calculated for the months of September 1, 2011 through December 31, 2011. In addition, NIJ issued new guidelines for determining performance metrics, effective January 1, 2012. For this semi-annual report, we have initiated the use of the new performance metrics' guidelines. However, the metrics collected at the beginning of the award were not calculated using the new guidelines and due to the dynamic nature of our casework, we are unable to recreate this information. Beginning January 1, 2012 all performance measures will be collected in accordance with the new NIJ guidelines. In our original proposal for this award, one of our goals was to complete 800 cases, but in the two previous progress reports we referenced 650 cases to be completed. We have made the necessary corrections to reflect the goal of the original proposal.

Four analysts, one technologist and half of an evidence custodian's time who processed these DNA cases were funded through this award. Funds from this award were also used to purchase quantification kits, amplification kits and supplies necessary for processing this casework.

The University of North Texas Center for Human Identification (UNTCHI) Laboratory provides DNA analysis to law enforcement agencies within the State of Texas (See Appendix 1 for a listing of submitting law enforcement agencies). The DNA analysis is primarily for sexual assaults, homicides, aggravated assaults, and property crime cases. In addition, UNTCHI has served as a local crime laboratory for the City of Fort Worth and the Tarrant County District Attorney's Office, performing DNA testing and providing expert testimony. UNTCHI functions as an adjunct laboratory to the Texas Department of Public Safety State Crime Laboratory (TXDPS). TXDPS and other agencies within the State routinely refer cases requiring: mitochondrial DNA (mtDNA) analysis; sexual assaults involving products of conception; and those that require familial and/or kinship relatedness statistical analysis.

A variety of DNA technologies are utilized, including autosomal STRs, mini- autosomal STRs (MiniFiler™ System), Y chromosome STRs and mitochondrial DNA analysis. Cases involving degraded samples or samples with a low level male contributor, which typically cannot be detected with traditional autosomal STR systems, have benefited from these types of testing.

UNTCHI continues to work closely with both law enforcement and prosecuting agencies to select only the most probative samples for DNA testing. This not only provides a form of education to our submitting agencies, but also helps to improve laboratory productivity and cost effectiveness.

At the beginning of this grant award period, October 1, 2010, UNTCHI had 20 backlogged forensic cases. At the beginning of this grant award period the types of cases received were as follows:

- 39.1% of the cases were sexual assault kits requiring serological screening prior to DNA analysis.
- 13.9% of the cases were property crimes
- 19.1% of the cases were forensic paternity.
- 15.7% of the cases were homicides.
- 7.8% of the cases were robberies
- 1.7% of the cases were aggravated assault
- The remaining 2.6% was distributed among other UCR Part 1 Crimes

The average turn-around time from the date a case was received to the date a report was issued to the submitting agency was 82 days at the beginning of this award period.

Project Goals and Objectives:

The goals of this project are two-fold:

1. Increase the number of cases completed for all UCR Part 1 violent crimes.
2. Reduce the number of days between the submission of a DNA sample and the delivery of results, increasing the average number of samples analyzed per analyst per month, reducing the number of backlog cases and increasing the number of cases entered into CODIS.

The objectives of this award include:

1. Accession, screen and/or analyze a total of 800 cases over the 18 month grant period.
2. Reduce the average turn-around time to 100 days. (Note: There was a considerable time difference between the submission of our FY2010 proposal and the completion of our FY2009 award. The average turn-around time, at the beginning of this FY2010 award was 82 days, which was significantly below what had been proposed as our goal at the completion of this award. Therefore, our revised goal for our FY2010 award is to reduce our average turn-around time to 75 days.)
3. Increase the number of samples analyzed per analyst per month to 48.

Expected Results:

To achieve the goals and objectives for this award, UNTCHI will continue to:

- Maintain 4 forensic DNA analysts (3.5 analysts are processing samples, the technical leader spends 0.5 FTE on casework and 0.5 FTE on administrative duties), 1 forensic DNA technologist, and a half time evidence custodian.
- Purchase additional computers as needed
- Purchase an AB Automate PrepfilTM instrument for automated DNA extraction from reference and evidentiary samples
- Purchase the appropriate reagents and supplies required for maximum efficiency
- Provide training and continuing education for the DNA analysts

- Process a minimum of 800 cases during the 18 month period of this award and increase the number of DNA profiles being entered into CODIS.
- A reduction in the turn-around time from receipt to report of 75 days or less.

Status of Goals:

Utilization of funds for this award began on September 1, 2011; therefore, the metrics are calculated from September 1, 2011 to December 31, 2011.

Goal 1: Increase the number of cases and samples completed for all UCR Part 1 violent crimes.

- September 1, 2011 - September 30, 2011: UNTCHI completed 45 cases, with a total of 178 samples processed. Of the 178 total samples completed, 148 were DNA samples and 30 were serological samples.
- Progress October 1, 2011 – December 31, 2011: UNTCHI completed 134 cases, with a total of 437 samples processed. Of the total 437 samples, 349 were DNA samples and 88 were serological samples.

The total number of cases completed for this reporting period was 179. The number of samples completed for the reporting period was 615, of which 497 were DNA samples and 118 were serological samples.

NOTE: Of the 179 completed cases, 25 cases were re-opened because additional samples were submitted for testing. For reporting metric purposes, the 25 reopened cases were only counted once.

Goal 2: Reduce the number of days between the submission of a DNA sample and the reporting of results, increasing the average number of samples analyzed per analyst per month, reducing the number of backlog cases and increasing the number of cases entered into CODIS.

- Progress September 1, 2011 –December 31, 2011:
 - For this reporting period, the turn-around time was 54 days.
 - The number of DNA samples analyzed per analyst per month was 35.5.

CODIS Entry:

There were a total of 178 DNA profiles submitted to the Texas Department of Public Safety (TXDPS) and uploaded to CODIS during this reporting period. There were a total of 91 confirmed CODIS hits.

In the regular session of the Eighty Second Texas Legislature (2011), HB 2385 was passed which modified SECTION 1. Subchapter B, Chapter 63, Code of Criminal Procedure, by adding Article 63.0515 to read as follows: “Art. 63.0515. CRIMINAL JUSTICE AGENCY. For purposes of this subchapter, the center (UNT Center for Human Identification) is a criminal justice agency that performs forensic DNA analyses on evidence, including evidence related to a case involving unidentified human remains or a high-risk missing person.” This addition was required by the FBI to allow UNTCHI directly upload Forensic Casework data into CODIS without review by TXDPS. The FBI had previously maintained that UNTCHI only had CODIS upload capability for profiles related to Missing Persons and Human Remains. UNTCHI is still awaiting the FBI’s response to our legislative bill. UNTCHI will continue to pursue direct upload as it is becoming a burden on Texas due to the passage of other legislative initiatives that require more timely submission and processing of Sexual Assault Cases within the State.

Corrective Action and Changes

Currently, there is no corrective action required in order to meet the stated goals and objectives. Starting with this semi-annual report, UNTCHI has implemented several changes in response to the January, 2012 NIJ Guidelines for Calculating Performance Measures. The Technical Leader

of the UNTCHI Forensic Unit has submitted the following explanation regarding previous, current and future reporting practices.

Several changes in the definition and collection of forensic casework metrics were recently implemented to comply with new definitions and guidelines set forth by NIJ for the 2011 and 2012 Backlog Reduction Awards. These changes will affect any direct comparisons between our metrics reported prior to our FY2010 award (the numbers reported during this reporting period represent our first reporting period (July 1, 2011 to Dec 31, 2011) for our FY2010 award). These changes affect the “average number of samples analyzed per analyst per month”, the “number of backlogged forensic DNA cases”, and the “how many cases were analyzed and delivered to the requesting agency” metrics.

Prior reporting of the “average number of samples analyzed per analyst per month” included both serology samples and DNA samples. The metrics for this reporting period and future reports will only include DNA samples in the calculation of this metric.

Prior reporting of the “number of backlogged forensic DNA cases” only included untested cases that were in queue. These numbers did not include cases that were in process. This report and future reports will include the total number of cases in queue and in process. Additionally, the laboratory will only report the number of backlogged cases that are greater than 30 days old. Prior reporting did not make this distinction.

Prior reporting of the number of cases that were analyzed and delivered to the requesting agency included both new cases and prior cases that were re-opened. Re-opened cases are cases previously processed and completed by the laboratory in which the submitting agency has issued a request for additional testing. Typically a new set of samples are received and processed by the laboratory, and a new DNA report is issued. This report and future reports will only count the number of new cases that were completed during the reporting period. Re-opened cases will only be mentioned in the report narrative. This change will be extended to the calculation of “the average number of days between the submission of a sample to our laboratory and the delivery of test results to the requesting agency”. Only new completed cases will be used to calculate the turn around time metric.

As a result of these changes, our projected goal of 48 samples per analyst per month may be an over estimate since prior reporting was based on samples completed with either serology and/or DNA testing. Using the January 1, 2012 requirements for calculating performance metrics based on samples for DNA testing only, our analysts are completing 35.5 DNA samples per analyst per month.

Two other changes may impact our overall goals for this award. First, in September, 2011 our forensic DNA technologist left UNTCHI to pursue other opportunities. UNTHCHI was able to hire an excellent replacement, however, a significant amount of time has been dedicated to training this new technologist and getting her integrated into casework. The second change occurred during the first week of December 2011, when all forensic casework was suspended as the laboratory relocated into our new completed facility. The laboratory was closed for approximately 5 weeks in order to perform the necessary instrument performance checks, calibrations, and to address all of the facility issues of the new laboratory space. Casework operations recommenced the second week of January, 2012.

Summary

During this award we had four qualified forensic analysts and one forensic DNA technologist dedicated to processing and analyzing backlog Texas forensic DNA cases. All of the analysts, one technologist and half of an evidence custodian's time were funded through this award. Funds from this award were also used to purchase quantification kits, amplification kits and supplies necessary for processing these DNA cases. Our expectation for this award is to complete 800 cases and further reduce our turn-around time to 75 days or less. The backlog at the beginning of this grant award, October 1, 2010, was 20 cases. We have eliminated the backlog that existed and continue to work new cases as they are submitted. UNTCHI has received samples from 48 different agencies throughout the State of Texas (See Appendix 1). UNTCHI continued to be productive even while training a new forensic DNA technologist and in spite of a one month suspension of work due to the laboratory's relocation process. At the end of this four month reporting period the types of cases received were as follows:

- 35.2% of the cases were property crimes
- 28.5% of the cases were sexual assault kits
- 10.6% of the cases were robberies
- 8.9% of the cases were forensic paternity
- 8.4% of the cases were homicides
- 6.1% of the cases were aggravated assault
- The remaining 2.2% was distributed among other UCR Part 1 Crimes

UNTCHI's forensic unit seeks to improve turn-around times and productivity by continually reviewing the entire DNA testing process from reception of a sample to delivery of results. Approximately 5% of the cases worked require mtDNA testing which is extremely time consuming and can affect turn-around times. Analysts and technologist are routinely called upon to provide expert testimony. Their time away from the laboratory to provide this service also affects productivity and turn-around times. The forensic unit anticipates that continued improvements will result in maintaining our record of accomplished goals for future grant awards.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The reporting period for this award is January 1, 2012 through June 30, 2012. Four analysts, one technologist and half of an evidence custodian's time who processed these DNA cases were funded through this award. During this reporting period funds from this award were used to purchase two new computers, one AB Automate Express®, quantification kits, amplification kits and supplies necessary for processing forensic DNA casework.

The University of North Texas Center for Human Identification (UNTCHI) Laboratory continues to provide DNA analysis to law enforcement agencies within the State of Texas (See Appendix 1 for a listing of submitting law enforcement agencies). The DNA analysis is primarily for sexual assaults, homicides, aggravated assaults, and property crime cases. In addition, UNTCHI has served as a local crime laboratory for the City of Fort Worth and the Tarrant County District Attorney's Office, performing DNA testing and providing expert testimony. UNTCHI functions as an adjunct laboratory to the Texas Department of Public Safety State Crime Laboratory (TXDPS). TXDPS and other agencies within the State routinely refer cases requiring: mitochondrial DNA (mtDNA) analysis; sexual assaults involving products of conception; and those that require familial and/or kinship relatedness statistical analysis.

Progress for Period January 1, 2012 through June 30, 2012:

On March 19, 2012, following a revision to the Texas Administrative Code, the FBI's NDIS Custodian granted UNTCHI access to upload forensic DNA profiles into CODIS. (*See attached letter*) The ability to upload these profiles, rather than submit them to TXDPS for upload, has proven to be a more efficient process. In order to support this effort, two computers were purchased with funds from this award and dedicated as CODIS entry stations. The number of CODIS profiles entered this reporting period was 259 compared to 178 during the previous reporting period.

In March, 2012, funds from this award were used to purchase the AB Automate Express® Forensic DNA Extraction system. Use of this system will increase sample throughput and reduce the analysts' time in performing manual extractions. Additional purchases for small equipment, such as thermomixers, vortexes, and pipettors have been made utilizing funds from this award.

Validation of Identifiler Plus has eliminated the need for the Profiler Plus® and CoFiler® amplification kits and is helping to reduce reagent costs. All supplies necessary to perform DNA testing on these forensic samples were purchased with funds from this award.

Expected Results:

UNTCHI anticipates achieving its goal to complete 800 cases at the end of the award period by:

- Maintaining 4 forensic DNA analysts (3.5 analysts are processing samples, the technical leader spends 0.5 FTE on casework and 0.5 FTE on administrative duties), 1 forensic DNA technologist, and a half time evidence custodian.
- Continuing to purchase the appropriate reagents and supplies required for maximum efficiency and productivity.
- Providing training and continuing education for the DNA analysts

Status of Goals:

Goal 1: Increase the number of cases and samples completed for all UCR Part 1 violent crimes.

- January 1, 2012 – June 30, 2012: UNTCHI completed 334 cases, with a total of 969 samples processed. Of the 969 total samples completed, 859 were DNA samples and 110 were serological samples.

NOTE: 58 cases were re-opened due to additional sample submissions but were not included in the total count of 334 cases.

Goal 2: Reduce the number of days between the submission of a DNA sample and the reporting of results, increasing the average number of samples analyzed per analyst per month, reducing the number of backlog cases and increasing the number of cases entered into CODIS.

- Progress January 1, 2012 – June 30, 2012: For this reporting period, the turn-around time was 76.4 days and the number of DNA samples analyzed per analyst per month was 40.9.

NOTE: During the last reporting period the average turn-around time was 54 days. The increase in the current turn-around time can be attributed to the increase in the number of property crime samples being submitted for testing. These samples often yield limited amounts of DNA and can be problematic and time consuming in processing. At the beginning of the award period approximately 19% of the cases submitted were property crimes; however, at the end of the current reporting period approximately 35% of the cases originate from property crimes. These samples are not considered "high priority" compared to homicide, sexual assaults, and forensic paternity samples. Therefore, a delay in testing may occur in an effort to complete the

“high priority” cases. The average turn-around time for non-property crimes is ~72.1 days and the average turn-around time for property crimes is ~84.9 days.

CODIS Entry:

There were a total of 259 DNA profiles uploaded to CODIS during this reporting period. There were a total of 100 confirmed CODIS hits.

Corrective Action and Changes

Currently, there is no corrective action required in order to meet the stated goals and objectives.

Summary

During this award we had four qualified forensic analysts and one forensic DNA technologist dedicated to processing and analyzing backlog Texas forensic DNA cases. All of the analysts, one technologist and half of an evidence custodian’s time were funded through this award.

Funds from this award were also used to purchase computers, equipment, quantification kits, amplification kits and supplies necessary for processing these DNA cases. Our expectation for this award is to complete 800 cases and reduce our turn-around time to 75 days or less. The backlog at the beginning of this grant award, October 1, 2010, was 20 cases. We have eliminated the backlog that existed and continue to work new cases as they are submitted. UNTCHI has received samples from 71 different agencies throughout the State of Texas (See Appendix 1)

At the end of this reporting period the types of cases received were as follows:

- 34.7% of the cases were property crimes
- 25.8% of the cases were sexual assault kits
- 11.5% of the cases were robberies
- 7.4% of the cases were forensic paternity
- 13.3% of the cases were homicides
- 5.4% of the cases were aggravated assault
- The remaining 2.0% was distributed among other UCR Part 1 Crimes

UNTCHI’s forensic unit seeks to improve turn-around times and productivity by continually reviewing the entire DNA testing process from reception of a sample to delivery of results.

Approximately 5% of the cases worked require mtDNA testing which is extremely time consuming and can affect turn-around times. Analysts and technologist are routinely called upon to provide expert testimony. Their time away from the laboratory to provide this service also affects productivity and turn-around times. The forensic unit anticipates that continued improvements will result in maintaining our record of accomplished goals for future grant awards.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

To achieve the goals and objectives of this award, UNTCHI had four qualified forensic analysts and one forensic DNA technologist dedicated to processing and analyzing backlog Texas forensic DNA cases. All of the analysts, one technologist and half of an evidence custodian’s time were funded through this award. Funds from this award were also used to purchase quantification kits, amplification kits and supplies necessary for processing this casework.

Validation of the AB Automate Express®: In March 2012, funds from this award were used to purchase the AB Automate Express® Forensic DNA Extraction system. Validation of the instrument was completed during this reporting period.

Training of the analysts, competency testing and implementation is anticipated to occur during early 2013. DNA recovery with the AutoMate Express® is comparable or better than the laboratory’s current organic extraction protocol for the majority of sample types tested. Overall,

the Applied Biosystems AutoMate Express® PrepFiler Express extraction system offers a reliable and expedient extraction method for DNA extraction of forensic casework samples. Implementation of this instrument by the forensic unit is anticipated to increase throughput and allow the analysts more efficient use of time.

Status of Goals:

Goal 1: Increase the number of cases and samples completed for all UCR Part 1 violent crimes.

July 1, 2012 – December 31, 2012: UNTCHI completed 386 cases, with a total of 1173 samples processed. Of the 1173 total samples completed, 974 were DNA samples and 199 were serological samples.

NOTE: 48 cases were re-opened due to additional sample submissions but were not included in the total count of 386 cases.

At the end of this reporting period the types of cases received were as follows:

- 35.7% of the cases were property crime.
- 30.9% of the cases were sexual assault kits requiring serological screening prior to DNA analysis.
- 11.5% of the cases were forensic paternity.
- 8.8% of the cases were homicide cases.
- 7.8% of the cases were robbery.
- 3.9% of the cases were aggravated assault.
- 1.4% of the remaining cases were distributed among other UCR Part 1 Crimes

Goal 2: Reduce the number of days between the submission of a DNA sample and the reporting of results, increasing the average number of samples analyzed per analyst per month, reducing the number of backlog cases and increasing the number of cases entered into CODIS.

July 1, 2012 – December 31, 2012: For this reporting period, the turn-around time was reduced from 76.4 days (previous reporting period) to 68.7 days. The average number of DNA samples analyzed per analyst per month was increased from 40.9 (previous reporting period) to 46.4.

CODIS Entry:

July 1, 2012 – December 31, 2012: There were a total of 388 DNA profiles uploaded to CODIS during this reporting period. There were a total of 184 confirmed CODIS hits.

Corrective Action and Changes:

Currently, there is no corrective action required in order to meet the stated goals and objectives. A request for a 30 day, no cost extension and a revised detailed budget and budget narrative were submitted November 30, 2012 and approved December 7, 2012.

Summary:

UNTCHI's forensic unit seeks to improve turn-around times and productivity by continually reviewing the entire DNA testing process from reception of a sample to delivery of results. Utilization of the AB Automate Express® Forensic DNA Extraction system is anticipated to help improve productivity.

Analysts are routinely called upon to provide expert testimony. During this reporting period the analysts were subpoenaed to testify for 16 trials. Many other DNA cases were processed by UNTCHI which assisted law enforcement officials and prosecutors in obtaining convictions. Their time away from the laboratory to provide this service also affects productivity and turn-around times.

The forensic unit anticipates that continued improvements will result in maintaining our record of accomplished goals for future grant awards.

FINAL REPORT:

The project period for Award 2010-DN-BX-K119 was from September 1, 2011 to January 31, 2013; however, the four analysts, one technologist and half of an evidence custodian's time who processed forensic DNA cases were funded under this award from September 1, 2011 to December 31, 2012. Effective January 1, 2013 salaries for these individuals were funded from our 2011-DN-BX-K408 award. Funds for consumables and supplies necessary to process the forensic DNA cases were utilized from the FY10 award from September 1, 2011 to December 31, 2012; therefore, performance metrics for the final report were calculated for the time period of September 1, 2011 to December 31, 2012. Metrics for January, 2013 will be reported under the FY11 award.

The University of North Texas Center for Human Identification (UNTCHI) Laboratory has continued to provide DNA analysis to law enforcement agencies within the State of Texas (See Appendix 1 for a listing of submitting law enforcement agencies) under Award 2010-DN-BX-K119. UNTCHI has performed testing for 55 counties in Texas, or approximately 22% of Texas counties. The majority of cases originate from Tarrant County, primarily Fort Worth and Arlington. The DNA analysis was for sexual assaults, homicides, aggravated assaults, and property crime cases. UNTCHI has served as a local crime laboratory for the City of Fort Worth and the Tarrant County District Attorney's Office, performing DNA testing and providing expert testimony. UNTCHI functions as an adjunct laboratory to the Texas Department of Public Safety State Crime Laboratory (TXDPS). TXDPS and other agencies within the State routinely refer cases requiring mitochondrial DNA (mtDNA) analysis; sexual assaults involving products of conception; and those that require familial and/or kinship relatedness statistical analysis.

The FY10 award allowed UNTCHI to hire and train a new forensic technologist to assist in performing many of the screening tests, quantification, and amplification procedures. A significant amount of time was dedicated to training this new technologist and getting her integrated into casework. Another significant event occurred the first week of December, 2011, when all forensic casework was suspended as the laboratory relocated into a new facility. The laboratory was closed for approximately 5 weeks in order to perform the necessary instrument performance checks, calibrations, and to address all of the facility issues of the new laboratory space. Casework operations recommenced the second week of January, 2012.

In January, 2012, UNTCHI implemented a revised process for collating metrics based on new NIJ Guidelines for Calculating Performance Measures. Details of this modified process were reported in Progress Report 3, for reporting period July 1, 2011 to December 31, 2011.

On March 19, 2012, following a revision to the Texas Administrative Code, the FBI's NDIS Custodian granted UNTCHI access to upload forensic DNA profiles into CODIS. As a result of this revision, UNTCHI is now classified as a Criminal Justice Agency. The ability to upload these profiles, rather than submit them to TXDPS for upload, proved to be a more efficient process. In order to support this effort, two computers were purchased with funds from this award and dedicated as CODIS entry stations.

In March, 2012, funds from this award were used to purchase the AB Automate Express® Forensic DNA Extraction system. Extensive validation studies were completed December, 2012 and training of the analysts occurred during January, 2013. Implementation of this system has increased sample throughput and reduced the analysts' time in performing manual extractions. Additional purchases for small equipment, such as thermomixers, vortexes, and pipettes to support the use of the AB Automate Express® were made utilizing funds from this award.

Utilization of Identifiler Plus™ eliminated the need for the Profiler Plus™ and CoFiler™ amplification kits and helped to reduce reagent costs. Reagents, supplies and consumables necessary to perform DNA testing on these forensic samples were purchased with funds from this award.

Final Status of Goals and Objectives:

The goals of this award were to:

Goal 1: Increase the number of cases and samples completed for all UCR Part 1 violent crimes.

Progress from September 1, 2011 – December 31, 2012: UNTCHI completed 899 cases, with a total of 2,757 samples processed. Of the 2,757 total samples completed, 2,330 were DNA samples and 427 were serological samples.

NOTE: 131 cases were re-opened due to additional sample submissions but were not included in the total count of 899 cases.

The detailed percentages of these 899 completed cases are as follows:

- 34.9% of the cases were property crime
- 28.8% of the cases were sexual assault kits requiring serological screening prior to DNA analysis
- 10.5% of the cases were homicide
- 9.8% of the cases were robbery
- 9.5% of the cases were forensic paternity
- 4.8% of the cases were aggravated assault
- 1.7% of the remaining cases were distributed among other UCR Part 1 Crimes

The following table is a comparison of the types of cases completed throughout the award period. At the beginning of the award the largest percentage of cases was sexual assaults; however, at the end of the award the greatest percentage of cases were property crimes.

Types of Cases Completed	Beginning of Award* (October 1, 2010)	End of Award* (December 31, 2012)	Award Average* (Sept., 2011 to Dec., 2012)
Sexual Assault	39.1%	30.9%	28.8%
Forensic Paternity	19.1%	11.5%	9.5%
Property Crimes	13.9%	35.7%	34.9%
Homicide	15.7%	8.8%	10.5%
Robbery	7.8%	7.8%	9.8%
Aggravated Assault	1.7%	3.9%	4.8%
Other UCR Part 1 Crimes	2.6%	1.4%	1.7%

*Percentages are based on the tabulation of quarterly performance metric reports

Goal 2: Reduce the number of days between the submission of a DNA sample and the reporting of results, increasing the average number of samples analyzed per analyst per month, reducing the number of backlog cases and increasing the number of cases entered into CODIS.

Progress from September 1, 2011 to December 31, 2012: the average turn-around time at the end of the award was 68.7 days and the average number of DNA samples analyzed per analyst per month was 46.4.

The objectives of this award were to:

Objective 1: Accession, screen and/or analyze a total of 800 cases over the 18 month grant period.

- Progress from September 1, 2011 to December 31, 2012: This objective was achieved since a total of 899 cases were completed within 16 months.

Objective 2: Reduce the average turn-around time to 100 days. (Note: There was a considerable time difference between the submission of our FY10 proposal and the completion of our FY09 award. The average turn-around time, at the beginning of this FY10 award was 82 days, which was significantly below what had been proposed as our goal at the completion of this award. Therefore, our revised goal for our FY10 award was to reduce our average turn-around time to 75 days.)

- This objective was achieved since the average turn-around time at the end of the award period was 68.7 days. This is approximately a 16% reduction in turn-around time from the 82 days at the beginning of the award period.

Objective 3: Increase the number of samples analyzed per analyst per month to 48.

- This objective was slightly less than projected since the average number of samples analyzed per analyst per month at the end of the award was 46.4; however, it was an improvement over the beginning of the award when the average number of samples analyzed per analyst per month was 35.6. This is approximately a 23% increase in productivity. It had been noted in Progress Report 3 that as a result of the changes required by NIJ for the tabulation of performance metrics that 48 cases could potentially be an over estimate for this objective. In the past, samples for both serological and DNA testing had been reported; however, the new reporting requirements stated that only samples for DNA testing were to be reported.

Backlogged Forensic DNA Cases:

At the beginning of the FY10 award the number of backlogged forensic DNA cases was 20; at the end of the award the number was 57. During the sixteen months of the award ~1,051 cases were received by UNTCHI in comparison to ~698 cases received during the previous sixteen month period. This represents approximately a 34% increase in the number of cases received during the FY10 award which resulted in an increase in the number of backlogged cases (>30 days since date of receipt).

CODIS Entry:

The cumulative total of DNA profiles uploaded to CODIS during this award was 825. The cumulative total of confirmed CODIS “hits” was 375. This represents a “hit” rate of approximately 45.5%.

Expenditures during Award Period:

Personnel

UNTCHI had 4 full time qualified forensic analysts, one forensic technologist and a half-time evidence custodian working forensic cases funded through this award. Processing of the cases was performed by 3.5 analysts due to the fact that half of the Technical Leader’s time was dedicated to administrative duties associated with backlog DNA testing.

Equipment

Two computers and an AB Automate Express® were purchased with funds from this award.

Reagents and Supplies

The reagents and consumables needed to perform STR and mtDNA testing on forensic samples were ordered as needed. The reagents were ordered in a manner that ensured maximum efficiency and complete usage before expiration dates. All critical reagents underwent quality control testing prior to use in casework.

Training

Funds from this award were used to send two forensic analysts to the Promega International Symposium on Human Identification held in National Harbor, MD in October, 2011.

Corrective Action and Changes:

There was no corrective action required in order to meet the stated goals and objectives of the award. During utilization of award 2010-DN-BX-K119 there were two no cost extensions requested; first request was submitted on February 16, 2012 and the second on November 30, 2012. A budget modification was also submitted November 30, 2012. The budget modification was submitted in order to effectively utilize the remaining funds of the award.

Summary

During this award we had four qualified forensic analysts and one forensic DNA technologist dedicated to processing, analyzing, and reviewing backlog Texas forensic DNA cases. All of the analysts, one technologist and half of an evidence custodian's time were funded through this award. Funds from this award were also used to purchase computers, equipment, quantification kits, amplification kits and supplies necessary for processing these DNA cases. Our expectation for this award was to complete 800 cases and reduce our turn-around time to 75 days or less. Both of these goals were accomplished by completing 899 cases and reducing the turn-around time to 68.7 days. The backlog at the beginning of this grant award, October 1, 2010, was 20 cases. We have eliminated the backlog that existed and continue to work new cases as they are submitted.

UNTCHI's forensic unit seeks to improve turn-around times and productivity by continually reviewing the entire DNA testing process from reception of a sample to delivery of results. Approximately 5% of the cases submitted required mtDNA testing which is extremely time consuming and can affect turn-around times. Analysts and technologist are routinely called upon to provide expert testimony. From September 1, 2011 to December 31, 2012 the forensic analysts testified at 29 different trials in the State of Texas. The time required preparing for expert testimony and their time away from the laboratory to provide this service also affects productivity and turn-around times. The forensic unit anticipates continued improvements will result in maintaining our record of accomplished goals for future grant awards.

APPENDIX 1

Texas Law Enforcement Agencies Submitting Cases to UNTCHI
Under Award 2010-DN-BX-K119
(September 1, 2011 Thru December 31, 2012)

Agency	State
175th Judicial District	TX
198th District Attorney's Office	TX
38th Judicial District Attorney's Office	TX
Abilene Police Dept.	TX
Addison Police Dept.	TX
Alvarado Police Dept.	TX
Amarillo Police Dept.	TX
Angleton Police Dept.	TX
Arlington Police Dept.	TX
Austin Police Dept.	TX

Benbrook Police Dept.	TX
Bexar County Crime Lab	TX
Bowie County Sheriff's Office	TX
Brazoria County District Attorney's Office	TX
Brazoria County Sheriff's Office	TX
Brazoria Police Dept.	TX
Brownwood Police Dept.	TX
Bryan Police Dept.	TX
Burleson Police Dept.	TX
Carrollton Police Dept.	TX
Cedar Hill Police Dept.	TX
Cleburne Police Dept.	TX
Colleyville Police Dept.	TX
Comal County Sheriff's Office	TX
Comanche County Sheriff's Office	TX
Conroe Police Dept.	TX
Cooke County Sheriff's Office	TX
Corpus Christi Police Dept.	TX
Corsicana Police Dept.	TX
Crockett County Sheriff's Office	TX
Dalworthington Gardens DPS	TX
Del Rio Police Dept.	TX
Denton County District Attorney	TX
Denton County Sheriff's Office	TX
Denton Fire Department	TX
Denton Police Dept.	TX
DFW Airport Police Dept.	TX
Dumas Police Dept.	TX
Ector County Sheriff's Office	TX
Ellis County Sheriff's Office	TX
Ennis Police Dept.	TX
Eules Police Dept.	TX
Everman Police Dept.	TX
Farmers Branch Police Dept.	TX
Flower Mound Police Dept.	TX
Forest Hill Police Dept.	TX
Fort Worth Police Dept.	TX
Franklin County Sheriff's Office	TX
Galveston County Sheriff's Office	TX
Galveston Police Dept.	TX
Garland Police Dept.	TX

Gladewater Police Dept.	TX
Grand Prairie Police Dept.	TX
Grapevine Police Dept.	TX
Greenville Police Dept.	TX
Grimes County Sheriff's Office	TX
Haltom City Police Dept.	TX
Hidalgo County Sheriff's Office	TX
Highland Village Police Dept.	TX
Hood County D.A.'s Office	TX
Hood County Sheriff's Office	TX
Hughes Springs Police Dept.	TX
Huntsville Police Dept.	TX
Hurst Police Dept.	TX
Irving Police Dept.	TX
Jacksboro Police Dept.	TX
Jefferson County Regional Crime Lab	TX
Johnson County Sheriff's Office	TX
Joshua Police Dept.	TX
Keller Police Dept.	TX
Kendall County Sheriff's Office	TX
Kennedale Police Dept.	TX
Killeen Police Dept.	TX
Lampasas Police Dept.	TX
Lancaster Police Dept.	TX
League City Police Dept.	TX
Leon County Sheriff Office	TX
Little Elm Police Dept.	TX
Lufkin Police Dept.	TX
Madison County Sheriff's Office	TX
Mansfield Police Dept.	TX
McGregor Police Dept.	TX
Mesquite Police Dept.	TX
Mexia Police Dept.	TX
Midland Police Dept.	TX
Mt. Vernon Police Dept.	TX
Nacogdoches Police Dept.	TX
New Braunfels Police Dept.	TX
Newton County Sheriff's Office	TX
North Richland Hills Police Dept.	TX
Oak Ridge North Police Dept.	TX
Odessa Police Dept.	TX

Palestine Police Dept.	TX
Paris Police Dept.	TX
Parker County Sheriff's Office	TX
Pearland Police Dept.	TX
Pecos County Sheriff's Office	TX
Pflugerville Police Dept.	TX
Plano Police Dept.	TX
Potter County Sheriff's Office	TX
Randall County Sheriff's Office	TX
Red Oak Police Dept.	TX
Richland Hills Police Dept.	TX
River Oaks Police Dept.	TX
Robertson County District Attorney's Office	TX
Rockdale Police Dept.	TX
Round Rock Police Dept.	TX
Saginaw Police Dept.	TX
San Antonio Police Dept.	TX
San Marcos Police Dept.	TX
Sanger Police Dept.	TX
Sherman Police Dept.	TX
Slaton Police Dept.	TX
Southeast TX Forensic Center	TX
Southwestern Institute of Forensic Sciences (SWIFS)	TX
Sulphur Springs Police Dept.	TX
Tarrant County District Attorney	TX
Texarkana Texas Police Dept.	TX
Texas City Police Dept.	TX
Texas Dept. of Public Safety	TX
Texas Rangers	TX
The Colony Police Dept.	TX
UNT Denton Police Dept.	TX
UT Southwestern Police Dept.	TX
Victoria Police Dept.	TX
Waco Police Dept.	TX
Watauga Police Dept.	TX
Westworth Village Police Dept.	TX
White Settlement Police Dept.	TX
Whitesboro Police Dept.	TX
Wills Point Police Dept.	TX
Wise County Sheriff's Office	TX

Total Number of Submitting Agencies:	132
Sheriff's Office Agencies:	24
Police Departments:	93
Other:	26

FY10 Recipient Name: Texas Department of Public Safety

Award Number: 2010-DN-BX-K043

Award Amount: \$2,401,320

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

- Goal 1: Reduce backlog by utilizing grant-funded overtime for existing staff to conduct casework analysis.
- Goal 2: Enhance capacity
 - Objective A: Purchase ~~genetic analyzers, hand-held light sources, real time PCR units, and automated sperm search instruments~~ robotic liquid handlers, thermal cyclers, microcentrifuges, centrifuges, microscopes, heater/shakers, an autoclave, pipettors, PCR set-up hoods, and computers. Note, this goal was modified through Budget Modification GANs approved on 1/5/2011 and 6/7/2011. Goal also modified by a Scope GAN approved on 9/6/2011
 - Objective B: Purchase high-density shelving for newly completed laboratory spaces
 - Objective C: Purchase maintenance agreements for existing equipment
- Goal 3: Allow staff to attend training opportunities
- Goal 4: Hire/maintain ~~four~~ twelve additional Forensic Scientists who will be actively involved in casework activities. Note, this goal was modified to hire 12 instead of the original 4 additional forensic scientists through a Budget Modification GAN approved 1/5/2011

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

This grant was awarded and to be started 10-01-2010. However, Texas Department of Public Safety laboratories were still using the 2009 grant award and did so through December 2010. No funds from this 2010 award were expended during this three month period. This grant project will commence for the Texas DPS on January 1, 2011. There is therefore no activity to report for this three month period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

This DNA Backlog Reduction project effectively commenced on January 1, 2011. DNA Analysts in the eight Texas DPS Crime Laboratories examined forensic DNA cases on overtime, which was work performed after already working 40 hours per work week on state funding. Those cases worked during overtime hours are the ones counted as grant DNA cases. Grant provided funds were also used for supplies to examine these forensic DNA cases. All supply funds used since the inception of this project on or after January 1, 2011 have come from either state funds or from within this FY 2010 grant.

Approximately 70 forensic DNA analysts participated in the project. The number of cases

examined are reported separately in this progress report. The goal for the entire project is to complete 1,500 forensic DNA cases, and evidence in 647 cases were examined during this six month project period.

TRAINING: Using grant funds during this project period, fourteen DNA analysts attended the American Academy of Forensic Science Annual Meeting in Chicago in February, where they obtained valuable information in the subject of forensic DNA testing and were able to see new products and instruments used for DNA analysis.

In April, the DNA analyst from the Corpus Christi Lab attended the Bode Conference on DNA testing in San Diego, California.

In June, the DNA analyst from our El Paso Lab attended training on the Tecan robot for DNA extractions at Durham, North Carolina. Also in June, a number of our DNA analysts attended the Association of Forensic DNA Analysts and Administrators Seminar in San Antonio, Texas. Two days of papers were presented there on forensic DNA testing, along with product demonstrations. This continuing education helps these analysts stay abreast with the latest and most efficient techniques for DNA testing.

EQUIPMENT: During this period, the following two items of equipment were ordered:

1) An upgrade of an Applied Biosystems Avant genetic analyzer to a model 3130 for the McAllen Lab

2) A 3130 Genetic Analyzer was ordered for the Houston lab

These acquisitions have been completed and the equipment is being validated for use to analyze forensic DNA cases. This equipment will help to accommodate increased quantities of DNA samples being submitted to these labs for analysis.

Other items of equipment requested in the grant application, or subsequent grant adjustments, will be requisitioned during the next six months.

Additional Personnel:

Through a grant adjustment, approval was provided for us to employ twelve additional personnel to assist in biological evidence screening. Employment of those personnel has taken longer than anticipated, but most of them are either now employed, or they have been selected and will start work by the end of August. The plan is to train them to screen evidence and then have the DNA testing completed by our experienced DNA analysts.

This project is only slightly behind schedule, and it is anticipated that activity will increase during the second half of the year. We still expect to meet the project goal of completing the testing of evidence in 1,500 forensic DNA cases.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The equipment goal was modified through budget modification GANs in the first reporting period of the year, and most drastically by a Scope GAN approved on 9/6/2011.

Goal #1: Backlog Reduction

During this grant period, supplies for processing DNA cases were ordered, and DNA analysts in the eight forensic DNA labs worked during overtime hours each week to complete the analysis of DNA evidence. The number of cases processed in each of the eight laboratories is stated in a table on an attached sheet. Once the DNA analysis was completed on each case and the lab report written, a technical and an administrative review of the case was conducted before the report was issued. The appropriate DNA profiles were entered from each case into the CODIS database at the local, state, and NDIS levels. Searches of the CODIS databases are performed weekly to ascertain if DNA

from forensic samples can be matched to either DNA from evidence in other forensic cases, or to DNA profiles from offenders. DNA matches are reported to the investigating law enforcement agency once the match is confirmed. During this period, screening of evidence for biological material was completed on a total of 705 forensic cases, and DNA analysis was completed on evidence in 632 of mostly the same forensic cases. DNA profiles were uploaded into CODIS at either the SDIS or NDIS level on 430 of these cases, and into NDIS on 310 cases. CODIS hits were obtained on evidence from 122 cases. When combined with activity reported in progress report number 2, ninety percent of the goal of working 1,500 forensic cases has been achieved.

Goal #2: Capacity Enhancement

Equipment Acquisition: During this grant period, equipment was purchased to enhance the capacity of the respective laboratories.

- 1) High density shelving was ordered for the new crime laboratory facilities in both Weslaco and Corpus Christi. The shelving has been installed in Weslaco and the lab staff has moved into the new lab facility. In Corpus Christi, construction of the new lab is scheduled for completion in January 2012, with installation of the shelving scheduled for either January or February 2012.
- 2) A Qiagen EZ-1 robotic liquid sampler was acquired for use in the Waco Laboratory for the extraction of DNA from difficult evidence samples.
- 3) An order was placed for 65 Touch Smart computers to be distributed to all eight DNA Forensic DNA laboratories. These will be used in conjunction with a new laboratory information management system to better track DNA samples and to document work performed on those samples, as well as to report findings.
- 4) Pipettors were purchased for the DNA sections of the Corpus Christi, Houston, and Weslaco laboratories. These are used for sample collection in both the DNA quantitation and extraction processes.
- 5) A thermal cycler was purchased from Applied Biosystems for the Corpus Christi lab to be used in the PCR process with evidence DNA samples.
- 6) Centrifuges were ordered for the Corpus Christi, Garland, and Weslaco laboratories to use in the extraction of DNA samples.
- 7) Two uninterrupted power supply units were purchased for the Corpus Christi laboratory to use with genetic analyzers.
- 8) PCR work stations were ordered for the Weslaco laboratory, to be used in the PCR setup process.
- 9) Thermo mixers were acquired by the Waco laboratory to be used in the DNA extraction process.
- 10) Two autoclaves were acquired for the Weslaco lab for sterilizing reagents and for the autoclaving of bio-hazard evidence before disposal.
- 11) One microscope was acquired for the Weslaco laboratory for the examination of evidence samples for the presence of spermatozoa.
- 12) Sixteen computer work stations were ordered to be used as CODIS data entry computers in the eight DPS DNA laboratories.

In addition to the acquisition of new equipment, a contractor moved a walk-in freezer from the old crime lab in Houston to a new bio-evidence warehouse there. The freezer will be used for the storage of DNA evidence. Also, the staff of the DPS McAllen Laboratory moved from a small crowded facility to the new DPS Weslaco

Crime Laboratory in November and have installed and validated both new and existing DNA instruments and will greatly be able to enhance their work output in the new larger facility.

Goal #3 Training: A number of DPS DNA Analysts attended training events during this grant period both inside and outside of Texas.

- 1) Two persons worked on Masters Degrees at the University of Florida.
- 2) Twelve analysts attended the Association of DNA Analysts and Administrators meeting in San Antonio July 7-8, 2011.
- 3) Eighteen analysts attended the International Symposium on Human Identification Meeting in National Harbor, Maryland, October 4-6, 2011.
- 4) Five analysts attended the National CODIS Conference in Jacksonville, Florida, November 14-16, 2011.

This continuing education helped greatly to assure that the DPS DNA analysts were employing the latest and optimal procedures for forensic DNA testing, and that they are aware of specific challenges that may arise in casework.

Goal #4: Hire and Train Eleven Forensic Scientists and one Evidence Technician

These Forensic Scientists, once trained, are screening evidence in DNA cases. Then the screened samples are forwarded to a DNA analyst in each lab for completion of the DNA testing.

FINAL REPORT

Goal 1: Reduce backlog by utilizing grant funded overtime for existing staff to conduct casework DNA analysis, and to use grant funded consumable supplies. The goal was to complete 1,500 forensic biology cases over the project term.

Over the fourteen month period of the project from January 1, 2011 through February 29, 2012, DPS laboratory staff ordered consumable supplies needed for the screening and DNA analysis of evidence from forensic biology cases. Using these supplies, approximately seventy of the DPS state funded staff of DNA Forensic Scientists worked overtime, paid by grant funds, to screen and analyze biology evidence and develop DNA profiles, then to upload the eligible profiles into CODIS, and issue lab reports. This same activity took place in all eight DPS DNA laboratories across the state (Austin, Corpus Christi, McAllen, Lubbock, El Paso, Garland, Waco, and Houston). The Forensic Scientists testified in criminal trials, where requested. CODIS database searches were conducted weekly, and hits, when obtained, were reported to the respective law enforcement agencies. Work was performed and laboratory reports issued on a total of 1,552 forensic biology cases over the period of the project. The attached document reflects by laboratory the number of cases screened for biology evidence, and the number of cases where both screening and DNA analysis was completed. This goal was achieved.

Goal 2: Capacity Enhancement

Equipment Acquisition: During the fourteen month duration of this grant project, capital equipment was purchased and placed into service in one or more of the eight DPS DNA Crime Laboratories.

The list of equipment acquired is included in progress reports #2 and #3. All of this equipment has been installed and validated and will greatly enhance the capacity for DNA work output in these laboratories.

Goal 3: Training

A total of fifty-one DPS DNA analysts attended training conferences during 2011 using funds provided through this grant. They met their requirements for continuing education, while also learning new and better techniques for the forensic testing of DNA evidence. Details of that training are stated in Progress Reports #2 and #3.

In addition, DPS DNA Forensic Scientists attended training at an American Academy of Forensic Sciences meeting in Atlanta, Georgia held February 22-24, 2012.

Also, DNA Forensic Scientists attended an Association of Forensic DNA Analysts and Administrators Meeting in Austin, Texas February 2-3, 2012.

All of this training met the goal for this project of satisfying continuing education requirements for DPS DNA analysts.

Goal 4: Hire and Train Eleven Forensic Scientists and one Evidence Technician

As stated in Progress Report #3, the twelve positions were filled by employing new personnel. They have been trained to screen biological material in evidence samples and are now performing those tasks in six of the eight DPS DNA laboratories. They are helping greatly to affect the reduction of the DNA backlog.

FY10 Recipient Name: Harris County, Texas

Award Number: 2010-DN-BX-K097

Award Amount: \$796,580

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - To complete screening and reviewing of backlogged cases using overtime funds.

Goal 2 - To improve our ability to complete DNA analysis and store results more efficiently.

Goal 3 - To provide training opportunities for DNA personnel through relevant meetings and expert evaluations.

Goal 4 - To hire contract Personnel.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1 - To complete screening and reviewing of backlogged cases using overtime funds.

At this time, approximately \$34, 917.87 has been expended for overtime to process backlogged cases.

Goal 2 - To improve our ability to complete DNA analysis and store results more efficiently

The following items/service has been purchased and is currently in use:

1 - Tecan EVO

3 - Microsoft Office Licenses

1 - Wall Mount Computer

8 - Chairs

1 - Ductless Fume Hood

1 - Pipette

Goal 3 - To provide training opportunities for DNA personnel through relevant meetings and expert evaluations.

No funds have been expended for travel.

Goal 4 - To hire contract Personnel.

We have hired (1) DNA Analyst III, (1) DNA Lab Technician, (1) DNA Systems Analyst, and (6) Serologists.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal 1 - We no longer use overtime for screening and reviewing backlogged cases. The funds used during this reporting period were used only for supplies (and contract employees, explained below). Funds for supplies were used to work 261 cases during this reporting period.

Goal 2 - The following items/service has been purchased and is currently in use (cumulative):

1 - Tecan EVO

3 - Microsoft Office Licenses

1 - Wall Mount Computer

8 - Chairs

1 - Ductless Fume Hood

1 - Pipette

1 - Computype

1 - Crating Charge for Ductless Fume Hood

1 - Activated Bonded Charcoal Filter

1 - Filter Housing, Polypropylene for Valuline

1 - Supplies (Y-Filer AmpflSTR Kits, Identifiler PLUS AmpflSTR Kits, Quantifiler DUO Kits, Qiagen Kits)

Goal 3 - AAFS - Chicago, IL - 4 Staff members attended

AFDAA - San Antonio, TX - 5 Staff members attended

Goal 4 - During this reporting period, there were six Serology contract staff members who performed only Serology screening. In total, they screened 1,030 cases to prepare them for DNA testing during this reporting period. Two additional Serology contract staff members were hired during this reporting period (one to replace a contractor who resigned during this reporting period; we now have a total of 7 contract serologist). Both of the new hires were in training only during this reporting period.

Three additional contractors, a DNA Systems Analyst, a DNA Validation Analyst and a DNA Technician were also under contract during this reporting period. None of these contractors conduct casework; their job is to make the case working analysts more productive. The DNA Systems Analyst developed several queries and converted excel workbooks used for DNA processing to Microsoft SQL databases for the Forensic Genetics Laboratory (Forensic Genetics Database, DNA Case Database).

The DNA Validation Analyst completed seven validations including validation of the new Tecan instrument, a new QIASymphony instrument and the Barcode System among others. The technician assisted with evidence submission entry into our LIMS, case report distribution (faxing and emailing), reagent preparation, preparation of stain cards (she made approximately 848 stain cards during this reporting period), and sterilization of supplies/solutions.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1 - To complete screening and reviewing of backlogged cases using overtime funds.

We no longer use overtime for screening and reviewing backlogged cases. The funds used during this reporting period were used only for supplies (and contract

employees, explained below). Funds for supplies were used to work 576 cases during this reporting period. The contract serologist performed serology and prepared 860 cases for DNA testing.

Goal 2 - To improve our ability to complete DNA analysis and store results more efficiently. The following items/service has been purchased and is currently in use (cumulative):

- 1 - Tecan EVO
- 3 - Microsoft Office Licenses
- 1 - Wall Mount Computer
- 8 - Chairs
- 1 - Ductless Fume Hood
- 1 - Pipette
- 1 - Computype
- 1 - Crating Charge for Ductless Fume Hood
- 1 - Activated Bonded Charcoal Filter
- 1 - Filter Housing, Polypropylene for Valuline
- 3 - Books
- 1 - Service Maintenance Agreement - Tecan Freedom EVO
- 1 - Supplies (Qiagen Kits, Identifiler PLUS AmpflSTR Kits, Quantifiler DUO Kits)

Goal 3 - To provide training opportunities for DNA personnel through relevant meetings
Meetings attended (cumulative):

- AAFS - Chicago, IL - 4 Staff members attended
- AFDAA (winter meeting) - Austin, TX - 5 Staff members attended
- AFDAA (summer meeting) - San Antonio, TX - 5 Staff members attended
- SWAFS - Houston, TX - 19 members attended

International Symposium on Human Identification (Promega) - National Harbor, Maryland - 5 Staff members attended

Goal 4 - To hire contract Personnel.

At the beginning of this reporting period, there were six Serology contract staff members who performed only Serology screening, a DNA Validation Analyst and a DNA technician. In total, the contract serologist screened 860 cases to prepare them for DNA testing during this reporting period. Our contract serologist staff has decreased to one contract serologist during this reporting period due to our ability to hire permanent staff. One additional contractor, a DNA Technician/Photographer was hired during this reporting period. The additional DNA technician/Photographer was in Laboratory training during this reporting period along with photographing evidence. 482 photographs of evidence were taken by this position during this reporting period. The technician assisted with evidence submission entry into our LIMS, case report distribution (faxing and emailing), reagent preparation, preparation of stain cards (approximately 643 stain cards during this reporting period), and sterilization of supplies/solutions.

The DNA Validation Analyst completed the validation of Identifiler Plus on the Tecan with Barcodes Template v3.0 during this reporting period. The DNA validation analyst does not conduct casework; their job is to make the case working analysts more productive.

PROGRESS REPORT 4: January 1, 2012 – March 30, 2012

Goal 1 - We no longer use overtime for screening and reviewing backlogged cases. No funds were used during this reporting period for supplies.

Goal 2 - To improve our ability to complete DNA analysis and store results more efficiently.

The following items/service has been purchased and is currently in use (cumulative):

- 1 - Tecan EVO
- 3 - Microsoft Office Licenses
- 1 - Wall Mount Computer
- 8 - Chairs
- 1 - Ductless Fume Hood
- 1 - Pipette
- 1 - Computype
- 1 - Crating Charge for Ductless Fume Hood
- 1 - Activated Bonded Charcoal Filter
- 1 - Filter Housing, Polypropylene for Valuline
- 6 – Books
- 1 – Service Maintenance Agreement – Tecan Freedom EVO
- 1 – Supplies (Qiagen Kits, Identifiler PLUS AmpflSTR Kits, Quantifiler DUO Kits)
- 2-Color printers
- 1-Computype-software development
- 1- Computype zebra printer
- 3- Computype cordless scanners
- 1-Docking station
- 2- Washable wireless keyboards
- 1 – CODIS system upgrade- server, software and computers (3)

Goal 3 - To provide training opportunities for DNA personnel through relevant meetings

Meetings attended (cumulative):

AAFS 2011- (February, 2011) Chicago, IL - 4 Staff members attended

AFDAA winter meeting (February, 2011) - Austin, TX - 5 Staff members attended

AFDAA summer meeting (June, 2011) - San Antonio, TX - 5 Staff members attended

SWAFS – (Oct, 2011) Houston, TX – 19 members attended

International Symposium on Human Identification (Promega) - (Oct, 2011)

National Harbor, Maryland - 5 Staff members attended

AFDAA Winter Meeting 2012 (February, 2012) Austin, TX-5 Staff members attended

AAFS 2012 (February, 2012) Atlanta, Georgia -4 Staff members attended

Goal 4 - To hire contract Personnel. At the beginning of this reporting period, we hired one

serology contract staff member and replaced one serology contract staff member.

The contract staff funded from this grant during this time period consisted of two Serology contract staff members and one DNA Technician/Photographer. In total, the contract serologist screened 229 cases to prepare them for DNA testing during this reporting period. The DNA Technician/Photographer photographed 354 evidence during this reporting period along with their duty of sterilizing of supplies/solutions.

FINAL REPORT:

Goal 1 - To complete screening and reviewing of backlogged cases using overtime funds.

During the duration of this grant, \$34,917.87 was used for overtime to process 65 backlogged cases and 837 DNA cases were worked with grant purchased supplies for a total of 902 DNA cases. No cases were outsourced using funds from this grant award.

Goal 2 - To improve our ability to complete DNA analysis and store results more efficiently.

The following items/service was purchased during the duration of this grant:

- 1 - Tecan EVO
- 3 - Microsoft Office Licenses
- 1 - Wall Mount Computer
- 8 - Chairs
- 1 - Ductless Fume Hood
- 1 - Pipette
- 1 - Computype
- 1 - Crating Charge for Ductless Fume Hood
- 1 - Activated Bonded Charcoal Filter
- 1 - Filter Housing, Polypropylene for Valuline
- 6 - Books
- 1 - Service Maintenance Agreement - Tecan Freedom EVO
- 1 - Supplies (Qiagen Kits, Identifiler PLUS AmpflSTR Kits, Quantifiler DUO Kits)
- 2-Color printers
- 1-Computype-software development
- 1- Computype zebra printer
- 3- Computype cordless scanners
- 1-Docking station
- 2- Washable wireless keyboards
- 1 - CODIS system upgrade- server, software and computers (3)

Goal 3 - To provide training opportunities for DNA personnel through relevant meetings

Meetings attended during the duration of this grant:

- AAFS 2011- (February, 2011) Chicago, IL - 4 Staff members attended
- AFDAA winter meeting (February, 2011) - Austin, TX - 5 Staff members attended
- AFDAA summer meeting (June, 2011) - San Antonio, TX - 5 Staff members attended
- SWAFS - (Oct, 2011) Houston, TX - 19 members attended
- International Symposium on Human Identification (Promega) - (Oct, 2011) National Harbor, Maryland - 5 Staff members attended
- AFDAA Winter Meeting 2012 (February, 2012) Austin, TX (five people)
- AAFS 2012 (February, 2012) Atlanta, Georgia (four people)

Goal - 4: To hire contract Personnel.

During the duration of this grant the contract Serology/ Technician staff hired performed screening on 2119 cases for DNA testing, prepared 1491 stain cards and photographically documented 836 cases.

During the duration of this grant the contract DNA Systems Analyst developed several queries and converted excel workbooks used for DNA processing to Microsoft SQL databases for the Forensic Genetics Laboratory (Forensic Genetics Database, DNA Case Database).

During the duration of this grant the contract DNA Validation Analyst completed several validations including validation of the new Tecan instrument, a new QIASymphony instrument,

the Barcode System and Identifiler Plus on the Tecan with Barcodes Template v3.0 among others.

FY10 Recipient Name: Tarrant County, Texas

Award Number: 2010-DN-BX-K052

Award Amount: \$280,892

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

There are eight goals that the TCME will accomplish in order to improve and increase DNA capacity of the DNA Laboratory.

Goal #1: Purchase, install, and validate the equipment necessary to extract and purify samples using a much faster automated instrument. The QIAgen EZ1 XL Advanced and the Thermoshaker instruments will allow samples to be completely extracted in as little time as an hour.

Goal #2: Purchase, install, and validate the QIAgility Liquid Handler which can set-up quantification and amplification plates in an automated system. Also, purchase Qiagen service to customize the protocols and service to verify calibration of automated liquid handlers.

Goal #3: Purchase and install a LIM System which includes software and a computer server that would ensure the laboratory is following required guidelines on documentation and quality assurance.

Goal #4: Purchase equipment that would assist in the calibration of the thermal cyclers which would ensure complete and accurate temperature variations for successful amplifications.

Goal #5: Purchase the needed supplies that would be utilized for the validation of new instrumentation.

Goal #6: Purchase the needed pipettes for the set-up station at the EZ1 instruments.

Goal #7: Purchase a printer for the bank of EZ1 instruments and the QIAgility.

Goal #8: Purchase a computer work station to allow timely evidence transfers using the county's LIMS.

Goal #9: Provide education for four Forensic Biologists that will satisfy the CE requirements.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1: In this reporting period, the lab has received approval for the QIAGEN sole source GAN. Three EZ1 XL Advanced Instruments were ordered and received. The Thermoshakers have been ordered; however, have not been received at the lab yet.

Goal #2: In this reporting period, the lab has received approval for the QIAGEN sole source GAN. The QIAgility was ordered and received by the laboratory. Qiagen has set-up the instrument and provided a day of training. Customization of protocols has been purchased; however, service has yet to be done. Formal quote was received for calibration of instrument.

Goal #3: In this reporting period, the lab has purchased this software and LIMS system; however, the lab has yet to receive the purchased items.

Goal #4: In this reporting period, no quotes or research has been done for this item.

Goal #5: In this reporting period, three Qiagen Investigator kits have been ordered and received.

Goal #6: In this reporting period, no pipettes have been purchased.

Goal #7: In this reporting period, printers were researched.

Goal #8: In this reporting period, the lab has researched the requirements needed to be on the computer such as server software and service packs.

Goal #9: In this reporting period, one analyst has attended the CODIS conference in Salt Lake City. Also, two analysts have registered for the Academy meeting in Chicago.

Performance Metrics

The performance measures, the average number of days from request to authorized report release and the average number of samples worked by each analyst each month, were collected, calculated, and recorded using an Excel program. The dates were recorded in an Excel program by the Crime Lab Secretary whose responsibility is to send out the DNA reports to submitting agencies. The number of samples worked by each analyst was recorded by the Crime Laboratory Director when the case was completed. And it was the ultimate responsibility of the Business Manager to compile the information together in the Excel program where the data can be maintained and the required information could be calculated. There were several factors such as training, grant duties and activities, and CODIS activities that affected the turnaround time and number of samples analyzed during this reporting period.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal #1: In this reporting period, the lab has received all of the equipment. The instruments are in the process of being validated.

Goal #2: In this reporting period, the lab is currently in the process of validation of the QIAgility.

Goal #3: The lab has received the server and software. A week long training session occurred in May 2011. The lab is in the process of getting all documents into the LIMS system so it can be implemented into the workflow.

Goal #4: In this reporting period, no quotes or research has been done for this item.

Goal #5: In this reporting period, four Qiagen Investigator kits have been ordered and received. Also, a flip-cap adapter for the QIAgility has been ordered.

Goal #6: In this reporting period, no pipettes have been purchased.

Goal #7: In this reporting period, a printer was purchased and received.

Goal #8: In this reporting period, the lab has purchased a computer work station and received the computer.

Goal #9: In this reporting period, two analysts have attended the AAFS conference in Chicago. Also, two analysts have registered for the AFDAA meeting in San Antonio in July.

Performance Metrics: The performance measures, the average number of days from request to authorized report release and the average number of samples worked by each analyst each month, were collected, calculated, and recorded using an Excel program. The dates were recorded in an Excel program by the Crime Lab Secretary whose responsibility is to send out the DNA reports to submitting agencies. The number of samples worked by each analyst was recorded by the Crime Laboratory Director when the case was completed. And it was

the ultimate responsibility of the Business Manager to compile the information together in the Excel program where the data can be maintained and the required information could be calculated.

There were several factors such as training, grant duties and activities, and CODIS activities that affected the turnaround time and number of samples analyzed during this reporting period.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal #1: In this reporting period, the EZ1s are in the process of being validated.

Goal #2: In this reporting period, the QIAgility is in the process of being validated.

Goal #3: The lab is in the process of getting all documents into the Qualtrax LIMS system so it can be implemented into the laboratory workflow. The lab is working with the company to get several issues resolved before it can be used in the lab.

Goal #4: In this reporting period, a quote was obtained and the temperature probe was ordered. Unfortunately, the wrong temperature probe was received. The lab is in the process of getting the issue resolved.

Goal #5: In this reporting period, Fitzco tubes were received to be used during the validation of the EZ1s.

Goal #6: In this reporting period, no pipettes have been purchased.

Goal #7: In this reporting period, a printer was installed in the laboratory so that documents would be able to be printed from the EZ1s and QIAgility; however, the computers for the instruments have not been networked to the printer.

Goal #8: In this reporting period, the computer work station has been installed in the lab, but the label printer does not work on the new computer. Our IT department is working on this issue.

Goal #9: In this reporting period, two analysts attended the AFDA meeting in San Antonio in July of 2011.

Performance Metrics: The progress report includes corrections to previously submitted performance metrics. A change in the manner in which DNA samples were tabulated within our business management software went into effect October 1, 2010 and led to inadvertent duplicate counting of samples for statistical purposes on some DNA cases. This issue was discovered during this reporting period and corrections were made accordingly to the number of samples/analyst/month. A correction to backlog numbers for reporting period two is being made due to the fact that the previous number did not exclude samples that had been in the laboratory for less than 30 days. Corrections are also being made to the figures for average turnaround time. The use of multiple spreadsheets maintained by several individuals resulted in omissions in calculation of these numbers. A change has been made to our procedures and a single Excel spreadsheet updated by the Crime Lab Secretary and maintained by the Crime Lab Director will now generate all numbers for performance measures.

The main factor affecting the metrics during this time period was the move of the Crime laboratory to a new building. The amount of time it took to pack, move, and unpack our laboratory took time away from casework and validations. The analysts involvement in training, grant activities, quality assurance, and CODIS activities were also factors that affected the turnaround time and number of samples analyzed during this reporting period.

FINAL REPORT:

The Tarrant County Medical Examiner (TCME) Crime Laboratory applied for and was awarded grant 2010-DN-BX-K052 under the DNA Backlog Reduction grant program. The amount awarded was \$280,892. The funds awarded were used to purchase equipment, supplies and services for validation, education, software licenses, and a LIMS for document management. The main objective of the grant project was to improve DNA analysis capacity of the Tarrant County Medical Examiner's DNA laboratory.

The TCME Crime Laboratory had nine goals to achieve during the life of the grant that would allow the laboratory to eventually decrease the turn around time for cases, reduce backlog, and increase the number of samples worked. The lab was able to successfully achieve all of the goals as far as purchasing all equipment, services and software. Several items are still in the process of being validated at the close of the grant. List below are the goals and how each goal was achieved.

Goal #1: To purchase, install, and validate three Qiagen EZ1 Advanced instruments. These instruments will be used as an automated purification step in the extraction procedure. The automation will take the place of our current manual method which is more time consuming and opens the door for human error. The EZ1 samples also exhibit less inhibition than the samples purified organically which could significantly decrease our turn around time by decreasing the number of amplifications we perform. The automation will allow the samples to be purified in only seventeen minutes where our current method takes hours. These instruments are in the final stages of validation and will be online in the near future.

Goal #2: To purchase, install, and validate a Qiagen Qiagility instrument. The liquid handler will be used for quantification setup, normalization, and amplification setup. The automation will take the place of our current manual method which is more time consuming and opens the door for human error. With the use of automation, the setup will not take long and it allows the analyst to be doing other tasks. The instrument is in the process of being validated and a service to have it calibrated and additional protocol support has been purchased. The calibration service has been purchased but has not been performed by the close of the grant. The service has been set for completion in May 2012.

Goal #3: To purchase and install a LIMS document manager. The LIMS purchased is Qualtrax. Many of our quality documents including training, manuals, and logs have been imported into the new system. The software also has workflow and testing features which are in the process of being developed. Qualtrax is not fully online at the close of the grant, but will be in place in the near future. The purchase included hardware, software, training, and maintenance.

Goal #4: To purchase a temperature probe. The temperature probe was ordered; however, we are still waiting for delivery of this item. The temperature probe will assist in the calibration of the thermal cyclers which would ensure complete and accurate temperature variations for successful amplifications.

Goal #5: To purchase supplies for the validations to be completed on the instruments purchased on the grant. All items on the supply list were purchased and have been or will be used for validations of the Qiagen EZ1s and Qiagility.

Goal #6: To purchase pipettes and shaking heat blocks to be used for the validation of instruments. Eight pipettes were purchased and received from Rainin to be used for the Qiagen EZ1 area and for the validation of the Qiagen Qiagility. Also, two shaking heat blocks that are being used for the validation of the EZ1s have been received and installed.

Goal #7: To purchase a color printer for the EZ1 and Qiagility documents to be printed on. A printer was purchased and installed in the laboratory so that documents would be able to be printed from the EZ1s and Qiagility; however, the computers for the instruments have yet to be networked to the printer. The printer was attached to the evidence check-in computer purchased.

Goal #8: To purchase a computer work station that will allow for timely evidence transfers, a client CODIS workstation and appropriate software license, and two Adobe licenses. The evidence check-in computer has been installed and put into use in the lab, but we are waiting on a new label printer. The two Adobe licenses have been purchased and installed. The CODIS workstation and license have been purchased, but they have yet to be received by the close of the grant.

Goal #9: Funding allowed analysts to obtain the required amount of Continuing Education needed for qualified DNA analysts. Four analysts went to an American Academy of Forensic Science meeting, two analysts went to Association of Forensic DNA Analysts and Administrators, and one analyst went to the CODIS meeting.

Performance Metrics: In this final report, the cumulative metrics for the grant lifecycle have been entered into the final column. Metrics for January 1, 2012 – March 31, 2012, (final reporting period) are included in the Jan – June 2012 column.

The performance measures, the average number of days from request to authorized report release and the average number of samples worked by each analyst each month, were collected, calculated, and recorded using an Excel program. The dates were recorded in an Excel program by the Crime Lab Secretary whose responsibility is to send out the DNA reports to submitting agencies. The number of samples worked by each analyst was recorded by the Crime Laboratory Director when the case was completed. The Crime Laboratory Director compiled the information together in the Excel program where the data is maintained and the required information could be calculated.

The main factor affecting the metrics during this time period was the move of the Crime laboratory to a new building. The amount of time it took to pack, move, and unpack our laboratory took time away from casework and validations. The analysts involvement in training, grant activities, quality assurance, and CODIS activities were also factors that affected the turnaround time and number of samples analyzed during this reporting period.

FY10 Recipient Name: County of Bexar, Texas

Award Number: 2010-DN-BX-K048

Award Amount: \$127,119

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 – To validate single PCR amplification of Core CODIS Loci

Goal 2 – To validate processes generate CODIS profiles on challenging Samples

Goal 3 – To validate processes to increase the discrimination and resolution of complex Male:Female mixture samples

Goal 4 – To maintain the accreditation mandated analyst training

Goal 5 – To continue the case record digitization for the new LIMS

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goals 1, 2 and 3: The analysts involved in these projects will hold a planning meeting to design the projects in late January or early February 2011.

Goal 4: No training was scheduled or budgeted for this quarter.

Goal 5: No funds from this award were used to digitize case records in this quarter. (Note: funds from a previous award, 2009-BN-BX-K095, were used for digitization and document destruction during this reporting period.)

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goals 1, 2 and 3: The analysts involved in these projects held a planning meeting to design the projects February 3, 2011 and project plans and supply lists were submitted to the Technical Leader on February 18, 2011. Supplies for these projects were ordered between March 14th and April 7th (\$50,369.18) and equipment was ordered April 14th (\$2,764.65). Validation projects are in progress and expected to be completed October 1st.

Goal 4: No training was scheduled or budgeted on this award for this reporting period.

Goal 5: Funds for the digitizing of case records have been incorporated into a contract extension with the current vendor, according to County policy. During the current reporting period, the vendor has scanned 109,664 document pages, consuming \$6,020.55 of the budgeted \$24,000. In addition, 17 bins of previously scanned case records were shredded and destroyed, consuming \$1,000 of the budgeted \$1,000.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: The validation team completed the internal validation of the Applied Biosystems AmpFLISTR[®] MiniFiler[™] PCR Amplification Kit. The analyses have been documented and all criteria required by the FBI Quality Assurance Standards (QAS) are complete. The validation team recommends the implementation of the amplification kit to supplement the current methodology (Applied Biosystems AmpFLISTR[®] ProfilerPlus[™] and COfiler[™] PCR Amplification Kits) to help achieve profiles containing all the core loci required for CODIS entry for challenging samples. The technical leader will decide whether to implement the new validated procedure in January 2012. (Note: The internal validation was approved by the technical leader on January 24, 2012 and training for implementation is scheduled to begin later in the first quarter of 2012. Goal 1 has been met.)

Goal 2: The validation team completed the internal validation of the Applied Biosystems AmpFLISTR[®] Yfiler[™] PCR Amplification Kit. The analyses have been documented and all criteria required by the FBI Quality Assurance Standards (QAS) are complete. The validation team recommends that implementation of the amplification kit to replace the current Y-chromosome STR methodology (Promega PowerPlex[®] Y System) to assist in the discrimination of challenging male:female mixture samples. The technical leader will decide whether to implement the new validated procedure in January 2012. If approved, the current methodology will be phased out while training additional analysts in the replacement methodology and while the current Promega PowerPlex[®] Y System reagents are depleted. (Note: The internal validation was approved by the technical leader on January 24, 2012 and training for implementation is scheduled to begin later in the first quarter of 2012. Goal 2 has been met.)

- Goal 3: The validation team completed the internal validation of the Applied Biosystems AmpFISTR® Identifiler Plus™ PCR Amplification Kit and the Promega PowerPlex® 16 HS System. The analyses have been documented and all criteria required by the FBI Quality Assurance Standards (QAS) are complete. The validation team recommends the implementation of the Applied Biosystems AmpFISTR® Identifiler Plus™ PCR Amplification Kit (and not the Promega PowerPlex® 16 HS System) to replace the current methodology (Applied Biosystems AmpFISTR® ProfilerPlus™ and COfiler™ PCR Amplification Kits). The technical leader will decide whether to implement the new validated procedure in January 2012. (Note: The internal validation has not been approved at this time by the technical leader and an implementation date has not been set. If approved, training for implementation will probably not begin until late in the first quarter of 2012 or early in the second quarter of 2012.) Goal 3 is still in progress.
- Goal 4: One (1) analyst attended the Promega the 22nd International Symposium on Human Identification and workshops on October 3-6, 2011 in Washington, D.C. Only one of the two budgeted analysts was able to attend because of staffing shortages. (In addition, two (2) analysts attended the Association of Forensic DNA Analysts and Administrators (AFDAA) meeting on July 7-8, 2011, but since this meeting was held in San Antonio, Texas, here in Bexar County, travel rules forbid the use of per diem funds and not grant funds were needed, budgeted or used. An AFDAA meeting is scheduled in Austin, Texas, in the next quarter, and grant funds are scheduled to be used for that training.
- Goal 5: No funds from this award were used to digitize case records in this quarter. Two major factors affected the workload of the DNA section during this reporting period and a third factor affected the implementation of the LIMS supported by award 2009-DN-BX-K095:
- (1) A fully trained full-time employee left in June 2011 and, due to budget cuts, was not replaced. A previously approved FTE position was cut during budget negotiations. Both these events left the section understaffed.
 - (2) Legislation passed by the Texas legislature (SB 1636) went into effect on September 1, 2011. SB 1636 requires that sexual assault evidence collected as part of an active criminal case be submitted to a “public accredited crime laboratory” within 30 days of collection. The effect of the law was to increase submissions to the DNA laboratory greatly from August through November 2011; September submissions more than doubled from July submissions.
 - (3) A major influence on the delay of implementation of the LIMS was the need to incorporate communication with the Bexar County Financial system (Lawson). The Lawson implementation was delayed from August 1 to October 3. This delay removed Bexar County Information Technology personnel resources planned for use with the Crime Lab LIMS until December. The work required by staff to validate the new LIMS delayed the completion of the current grant.

PROGRESS REPORT 4 (Final): January 1, 2012 – June 30, 2012

- Goal 1: The internal validation was approved by the technical leader on January 24, 2012 and training for implementation was completed in March 2012. The use of this technology (Applied Biosystems AmpFLISTR® MiniFiler™ PCR Amplification Kit) was implemented effective March 1, 2012. Two (2) Applied Biosystems AmpFLISTR®

- MiniFiler™ PCR Amplification Kits were purchased for use in the training of the sections analysts. Goal 1 has been met.
- Goal 2: The internal validation was approved by the technical leader on January 24, 2012 and training for implementation was completed in March 2012. The use of this technology (Applied Biosystems AmpFISTR® Yfiler™ PCR Amplification Kit) was implemented effective March 1, 2012. Goal 2 has been met.
- Goal 3: The internal validation was approved by the technical leader on March 8, 2012 and training for implementation was is scheduled to be completed for all analysts by August 1, 2012. The use of this technology was implemented effective June 1, 2012. Goal 3 has been met.
- Goal 4: One (1) analyst attended the Association of Forensic DNA Analysts and Administrators (AFDAA) meeting on February 1-3, 2012 in Austin, Texas. Goal 4 has been met.
- Goal 5: No funds from this award were used to digitize case records in this reporting period.
Note: While the staffing issues described and the legislative mandates initiated in the previous reporting period are still adversely affecting the section workload and increasing the turnaround time, the LIMS supported by award 2009-DN-BX-K095 was fully implemented into the casework workflow effective January 2, 2012.
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FY10 Recipient Name: City of Houston, Texas

Award Number: 2010-DN-BX-K112

Award Amount: \$1,143,339

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1: Reduce casework backlog through overtime.

Goal 2: Hire 10 temporary Contract Criminalists.

Goal 3: Reduce the casework backlog through outsourcing.

Goal: Maintenance of current capacity through small equipment purchases.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Personnel

Goal: Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.

For Progress Report ending December 31, 2010 we have completed the following tasks:

-Formalized a streamlined version of the training program for contract employees and prepared samples for competency

-Employed 3 contract employees which include the following:

-Hang-Nga Nguyen-December 6, 2010

-Sean Trevathan-December 6, 2010

-India Henry-December 20, 2010

-Have since hired Maria Rumble - January 4, 2011

-Refreshed the job posting effective December 22, 2010 and have been receiving approximately 50 applications per week

-By January 28, 2011 expect to have completed training for two contract staff members so that they may began analysis of sexual assault kits the end of January 2011.

-5th Contract employee, Kristina Blackmon, will begin her employment February 14, 2011

-Have placed four additional applicants into background and scheduled polygraphs

Goal: Outsource 320 DNA cases

Due to not having spent down the DNA Backlog grant funds by 90%, we have not sent cases to outsource labs for DNA testing as of December 31, 2010.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

By March 15, 2011 all 10 contract employees were hired and trained in processing sexual assault evidence. An approximate total of 488 sexual assault cases were removed from the Property Room Freezer and are in Technical Review or completed as of July 29, 2011. At this point, we have begun to turn the corner in having a significant number of sexual assault cases being processed by the 10 trained contract screeners. Our target is to process a total of 2300 sexual assault cases.

A significant number of data points are being collected on the untested sexual assault kits including whether it is an acquaintance or stranger assault, whether a victim is uncooperative and whether a case has gone to trial without analysis of evidence. Approximately 50% of the cases are positive for biological fluid.

NOTE: There was no progress written on the Outsourcing Goal for this progress report.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal 1: *Reduce the casework backlog through overtime.*

Objective A: A total of 17.25 hours of overtime was utilized during this reporting period for technical review and profile upload of the outsourced DNA cases. Approximately nine cases were reviewed under overtime. The remaining 66 were reviewed by DNA analysts that are not eligible for this overtime pay.

Goal 2: *Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.*

Objective A: During this reporting period, of the 10 grant-funded criminalists hired prior to this report period, one contract employee resigned and on December 19, 2011, eight of the remaining 9 contract employees became permanent employees. 921 cases were screened by grant-funded personnel during this period. Of these 921 cases, 225 were outsourced for DNA testing. Approximately 68% of the screened sexual assault kits were found to be positive for semen or potential contact DNA, and therefore, eligible for subsequent DNA analysis. To ensure cases that are approaching their statute of limitations are processed before that statute expires, the grant-funded contractors targeted the oldest cases first for screening. They began processing cases as old as 2001, but during this period, have reached cases from 2006. In November, 2011, four of the grant-funded employees began screening incoming sexual assault kits as a result of a legislative mandate requiring that all kits be tested within 90 days of submission. In December, 2011, two more of the formerly grant-funded employees began training on DNA automation processes and therefore have had a limited impact on the sexual assault kits that group was initially tasked with processing.

The new goal is to back fill all positions and continue addressing the untested stored kits in the freezer and allocate permanent staff to the DNA testing program using robots.

Goal 3: *Reduce the casework backlog through outsourcing.*

Objective A: 225 sexual assault cases were outsourced for DNA testing during this period. All 225 cases were returned to HPD by the vendor laboratories during this reporting

period. Approximately 75 cases have been technically reviewed (only 9 of the 75 reviews were conducted in overtime using grant funding; the remaining 66 were reviewed using non-grant funding). The 75 reviews yielded 51 CODIS uploads and subsequently 20 CODIS hits.

Of the 921 kits screened in this period, approximately 627 are positive for DNA analysis, leaving 294 that will not go on to DNA because they are negative. The total number of DNA cases expected to be outsourced under this grant is 340. If we assume that 68% of the 248 cases processed in the first half of 2011 will be a part of the 340 cases outsourced, that leaves us with 172 additional positive cases from the second half of 2011 that can be outsourced to make up the 340. If only 172 cases are outsourced from the kits screened in the second half of 2011, there are 455 (627-172) kits that are positive but will not be outsourced. 455 plus the 294 negative kits equals 749. The number of kits screened that will not be outsourced for DNA is 749.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: *Reduce the casework backlog through overtime.*

Objective A: A total of 71.25 hours of overtime were utilized during this reporting period for technical review and profile upload of the outsourced DNA cases. Approximately 28 cases were reviewed under overtime. Additional cases were reviewed by DNA analysts that are not eligible for this overtime pay (see Goal 3 below).

Goal 2: *Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.*

Objective A: Though 10 temporary Contract Criminalists were initially hired, only one remained employed as a contract employee during this reporting period. The majority of the contract employees became permanent hires in the previous reporting period (December, 2011). All but one of the now-permanent hires has been reallocated to address other needs in the lab. For example, one significant challenge that we have been faced with is that all sexual assault kits must be submitted to the Crime Lab within 30 days as a result of Senate Bill 1636 which became effective 2011. In order to meet this legislative mandate, a team of four former contract employees were assigned to screen all incoming kits. On average approximately, 24 kits per week are being submitted and prepared for DNA testing. Two others have been reallocated to the DNA section to increase the capacity of the DNA section.

The one Contract Criminalist and one of the permanent hires continue to process untested sexual assault cases found in the Property Room freezer. The goal is to minimize missed prosecution from expired statute of limitations by starting with the oldest cases first. A total of 91 cases were screened during this period. Approximately 67% of the screened sexual assault kits were found to be positive for semen or potential contact DNA, and therefore eligible for subsequent DNA analysis.

The new goal is to back fill all remaining contract positions and continue addressing the untested kits in the Property Room freezer.

Goal 3: *Reduce the casework backlog through outsourcing.*

Objective A: No new DNA cases were outsourced during this reporting period. However, the technical review of previously outsourced DNA cases continued. Approximately 50 cases that had been outsourced were technically reviewed during this reporting period using both regular and overtime pay. The 50 case reviews resulted in 38 CODIS uploads (76.0%) and 13 CODIS hits (34.2%).

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

Goal 1: *Reduce the casework backlog through overtime.*

Objective A: A total of 113.75 hours of overtime were utilized during this reporting period for technical review and profile upload of outsourced DNA cases. Sixty cases were reviewed under overtime, while the remaining 17 were reviewed in regular time. (see Goal 3 below).

Goal 2: *Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.*

Objective A: Efforts to reduce the backlog will be shifted from in-house screening by contractor employees to the outsourcing of screening and DNA analysis. On December 19, 2012, a GAN was approved which will reallocate funds on this grant. The funds originally dedicated to temporary personnel for screening has been reallocated to outsourcing, as well as overtime pay for the technical review of the outsourced DNA cases by permanently employed, qualified Criminalists.

Goal 3: *Reduce the casework backlog through outsourcing.*

Objective A: 10 DNA cases were outsourced during this reporting period. The technical review of previously outsourced DNA cases continued. Approximately 77 cases that had been outsourced were technically reviewed during this reporting period using both regular and overtime pay. See below table for review breakdown.

Description	Number of Cases	CODIS Uploads	%	CODIS Hits	%
Total cases reviewed during reporting period	77	62	80.5%	14	22.5%
Cases reviewed under regular time	17	10	58.8%	4	40%
Cases reviewed under overtime	60	52	86.7%	10	19.2%

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

Goal 1: *Reduce the casework backlog through overtime.*

Objective A: A total of **108** hours of overtime were utilized during this reporting period for technical review and profile upload of outsourced DNA cases. All cases were reviewed under overtime.

Goal 2: *Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.*

Objective A: Efforts to reduce the backlog will be shifted from in-house screening by contractor employees to the outsourcing of screening and DNA analysis. On December 19, 2012, a GAN was approved which will reallocate funds on this grant. The funds originally dedicated to temporary personnel for screening has been reallocated to outsourcing, as well as overtime pay for the technical review of the outsourced DNA cases by permanently employed, qualified Criminalists.

Goal 3: *Reduce the casework backlog through outsourcing.*

Objective A: 37 DNA cases were submitted for testing to a vendor laboratory during this reporting period. 101 DNA cases were returned from vendor labs during this reporting period. The technical review of previously outsourced DNA cases and recently received DNA cases continued. Approximately 70 cases that had been outsourced were technically reviewed during this reporting period using overtime pay. Review of the 70 cases resulted in 42 CODIS entries and 8 CODIS hits.

Description	Number of Cases	CODIS Uploads	%	CODIS Hits	%
Total cases reviewed during reporting period	70	42	60.0%	8	19.0%

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1: *Reduce the casework backlog through overtime.*

Objective A: A total of 126.75 hours of overtime were utilized during this reporting period for technical review and profile upload of outsourced DNA cases. All cases were reviewed under overtime.

Goal 2: *Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.*

Objective A: Efforts to reduce the backlog will be shifted from in-house screening by contractor employees to the outsourcing of screening and DNA analysis. On December 19, 2012, a GAN was approved which will reallocate funds on this grant. The funds originally dedicated to temporary personnel for screening has been reallocated to outsourcing, as well as overtime pay for the technical review of the outsourced DNA cases by permanently employed, qualified Criminalists.

Goal 3: *Reduce the casework backlog through outsourcing.*

Objective A: 37 DNA cases were submitted for testing to a vendor laboratory during this reporting period. 40 DNA cases were returned from vendor labs during this reporting period. The technical review of previously outsourced DNA cases and recently received DNA cases continued. Approximately 40 cases that had been outsourced were technically reviewed during this reporting period using overtime pay; another 2 were reviewed in regular time. Review of the 42 cases resulted in 42 CODIS entries. There were 34 CODIS hits during this reporting period.

Description	Number of Cases	CODIS Uploads	%	CODIS Hits	%
Total cases reviewed during reporting period	42	42	100%	34	81%

Goal 4: Maintenance of current capacity through small equipment purchases.

Objective A: Small equipment items, including centrifuges, vortex mixers, stirrer plates, dry block heaters, pipettes, pipette carousels, and thermomixers, are needed in the DNA laboratory for continued maintenance of current capacity.

The aforementioned small equipment was purchased and received in the laboratory before September 30, 2013.

FINAL REPORT: October 1, 2010 – September 30, 2013

Goal 1: Reduce the casework backlog through overtime.

A total of **437** hours of overtime were utilized during this grant for technical review and profile upload of the outsourced DNA cases. 191 cases were reviewed under overtime with an average turnaround time of 2.3 hours per case. Another 124 cases were reviewed in regular time by DNA analysts that are not eligible for this overtime pay.

Goal 2: Hire 10 temporary Contract Criminalists (10). It is estimated that they will process five sexual assault kits per week once they complete a training period of 6-8 weeks.

The first contract employees began employment on December 6, 2010. By March 15, 2011, all 10 contract employees were hired. These individuals were trained in processing sexual assault evidence and ultimately screened approximately 1600 cases. To ensure cases that were approaching their statute of limitations were processed before that statute expired, the grant-funded contractors targeted the oldest cases first. The contractors began processing cases as old as 2001, but reached cases from 2006 during their tenure. In November, 2011, four of the grant-funded employees began screening incoming sexual assault kits as a result of a legislative mandate (TX SB 1636) requiring that all kits be submitted within 30 days and ideally tested within 90 days of submission. In December, 2011, two more of the grant-funded employees began training on DNA automation processes and therefore had a limited impact on the sexual assault kits that group was initially tasked with processing. On December 19, 2011, eight of the contract employees became permanent employees of the Houston Police Department. A 9th contract employee continued processing kits through August, 2012.

Efforts to reduce the backlog were shifted from in-house screening by contractor employees to the outsourcing of screening and DNA analysis. On December 19, 2012, a GAN was approved which reallocated funds on this grant. The funds originally dedicated to temporary personnel for screening was reallocated to outsourcing, as well as overtime pay for the technical review of the outsourced DNA cases by permanently employed, qualified Criminalists. While the department fell short of its 2300 case goal by only screening approximately 1600 cases, had the lab stayed the course and continued screening in-house, the lab was on target to reach its goal of 2300 cases.

Goal 3: Reduce the casework backlog through outsourcing.

There were a total of 363 DNA cases were sent out, analyzed and returned by outsource labs during this grant period. 315 of these 363 DNA cases have been technically reviewed using both

regular and overtime pay. The 235 cases entered into CODIS during the grant period resulted in 89 CODIS hits (38%) during this grant.

	Outsourced	Received from Outsource Agency	Technically Reviewed	Reviewed on Overtime	CODIS Entries	CODIS Hits	CODIS Hits %
Oct 2010/Dec 2010	0	0	0	0	0	0	0
Jan 2011/June 2011	75	13	13	0	0	0	0%
July 2011/Dec 2011	125	104	53	9	51	20	39%
Jan 2012/June 2012	25	105	60	28	38	13	34%
July 2012/Dec 2012	10	0	77	60	62	14	23%
Jan 2013/ June 2013	91	101	70	54	42	8	19%
July 2013/Sept 2013	37	40	42	40	42	34	81%
FY10 Grant Totals	363	363	315	191	235	89	38%

Notes: Red numbers in the performance metrics and in the final table above reflect changes from previously reported numbers. A comprehensive review for this final report revealed discrepancies between what has been previously reported and what the HPD records currently indicate. We suspect that some of the reported counts for the number of cases analyzed and delivered to the requesting agency used the total number of cases sent off for testing, while other counts for this category included cases tested and received from vendor laboratories. Additionally, the January, 2013-June, 2013 count for cases reviewed in overtime was incorrectly reported using the number of hours used for review instead of the number of cases reviewed. It is possible that handling by multiple individuals and a lack of auditing between progress reports resulted in these discrepancies that have since been corrected.

Goal 4: Maintenance of current capacity through small equipment purchases.

Objective A: Small equipment items, including centrifuges, vortex mixers, stirrer plates, dry block heaters, pipettes, pipette carousels, and thermomixers, are needed in the DNA laboratory for continued maintenance of current capacity.

The aforementioned small equipment was purchased and received in the laboratory before September 30, 2013. These items will enable the laboratory to maintain capacity despite aging equipment.

Challenges faced by the Laboratory

Despite the laboratory's improved productivity through increased staffing and training as well as efficiency analyses and improvements, the DNA section continues to experience a demand greater than its capacity. This can be attributed to two main factors.

1. The Houston Police Department initiated an audit of the Property Room and accounted for approximately 6,600 sexual assault kits that had not been tested. Some kits dated back to the 1980s. Most kits were not submitted to the laboratory by the investigating officer for a myriad of reasons. In some cases, DNA was not expected to be helpful, due to the assertion of consent. Other cases that didn't have a suspect and pre-dated CODIS were not submitted because the policy in place at that time didn't warrant testing until a suspect was available. Other cases were determined to be unfounded through investigative efforts. Regardless of the reason, these cases were not tested but they need to be. The laboratory, through other generous NIJ funding, was able to hire 10 contractors to start tackling this 6,600 kit backlog. At a positive rate of approximately 70%, many of these cases were entered in the DNA queue because of positive screening results where semen or the reasonable expectation of contact DNA was found. The department opted to outsource many of these positive cases, as well as other cases that were in the DNA queue, for testing using grant funding and other acquired resources. This certainly has alleviated the laboratory of the testing demands for almost 10,000 cases, but the laboratory is still responsible for the technical/ownership reviews of these cases for possible CODIS entry. Experienced analysts are dedicated to this review project and therefore unable to contribute to the testing of incoming casework.
2. Effective 9/1/11, Texas Senate Bill No.1636 requires that all sexual assault kits must be submitted to and tested if funding is available by an accredited laboratory. Previously, an investigator may determine that analysis by the laboratory was not warranted through investigative efforts. This new legislation prevents that approach and has already shown to have a significant impact on the casework coming in, complicating efforts to address casework already here. The HPD Crime Lab receives approximately 1,000 sexual assault kits/year.

Summary

The generous support of NIJ has enabled the Houston Police Department to enhance its capabilities, thereby empowering the laboratory to address backlogged cases, while still addressing incoming casework. The funding provided enabled increased capacity through the following: overtime pay to review outsourced casework; contract employment to address an influx of approximately 6,600 sexual assault kits not previously tested; and outsourcing of DNA casework. The funding also enabled the laboratory to make small equipment purchases to help maintain capacity as equipment inevitably ages.

The support from the NIJ-funded FY 2010 Forensic DNA Backlog Reduction Program has enabled the Houston Police Department Crime Laboratory meet the goals and objectives established at the outset of participation in this grant. Goal #1 was to reduce casework backlog

through overtime. Goal #2 was to hire temporary contract criminalists to process untested sexual assault kits. 8 of the 10 contract employees have since been made permanent employees, allowing the lab continued profit of the extensive training provided to these employees during their contractual employment. Goal #3 was to reduce the backlog through outsourcing. The laboratory met this goal by outsourcing and reviewing 363 cases which ultimately resulted in 236 CODIS entries and 88 CODIS hits. Finally, goal #4 was maintenance of current capacity through small equipment purchases. Grant funding enabled the purchase of centrifuges, vortex mixers, stirrer plates, dry block heaters, pipettes, pipette carousels, and thermomixers.

FY10 Recipient Name: Utah Department of Public Safety

Award Number: 2010-DN-BX-K117

Award Amount: \$281,036

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal: The Bureau of Forensic Services (BFS) goals for the 2010 Forensic DNA Backlog Reduction Grant are to reduce DNA case turnaround time, to increase the throughput in the DNA laboratory, and to reduce the DNA casework backlog. To achieve these goals BFS has outlined three main objectives, which are outlined below:

Objective #1: Hire one Forensic Scientist.

Objective #2: Provide external training for DNA analysts.

Objective #3: Purchase equipment and supplies to streamline DNA analysis. Amplification kits (Identifiler Plus and Yfiler) as well as quantitation kits (Quantifiler Duo) will be purchased to process the increasing volume of case submissions to the laboratory. Additionally, equipment will be purchased to aid analysts in the screening and processing of samples.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Objective #1:

- BFS has successfully hired a forensic analyst. This analyst has a master's degree in forensic science. This analyst is currently being trained in forensic serology. The analyst began working on December 6, 2010.

Objective #2:

- BFS has requested funds to send several analysts to two national forensic training symposiums being held in 2011 (AAFS and Promega). Travel arrangements are being made for two senior analysts to attend the 63rd American Academy of Forensic Sciences annual meeting in Chicago, Illinois. These senior analysts have been accepted to present a poster comparing four different amplification kits, Identifiler®, Identifiler Plus®, Power Plex 16®, and Minifiler™. The meeting is being held February 21-26, 2011.

Objective #3:

- No equipment or supplies have been purchased with this grant.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Objective #1:

- The Forensic Analyst that was hired with this grant is right at the end of her serology training. She has made great progress and it is expected that she will be completely

finished with her training by the middle of August. Throughout her training the analyst has learned all aspects of forensic serology, including biological stain identification, case processing, evidence handling, quality control, quality assurance, case reporting and case testimony. UBFS anticipates that once signed off this analyst will make a major impact on case throughput as well as case turnaround time. The analyst will primarily be working to screen evidence for biological samples that may be processed for DNA. Objective 1 will have been met once this analyst is completely trained and working cases on her own.

Objective #2:

- BFS sent two senior analysts to the 63rd American Academy of Forensic Sciences (AAFS) annual meeting in Chicago, Illinois on February 21-26, 2011. The two analysts were accepted to present a poster comparing four different amplification kits, Identifiler®, Identifiler Plus®, Power Plex 16®, and Minifiler™. Recently, UBFS implemented Identifiler Plus® for use in casework. Validating that kit sparked an interest with these analysts to do a side by side comparison of several similar kits on the market. The information they presented at the AAFS meeting was well accepted by many in the forensic community. These two analysts have now been asked to present their findings with during the Applied Biosystems road show throughout 2011. The Academy meeting was informative and valuable for the analyst. They were able to discuss different ideas with professionals that work in the forensic field. Travel/Attendance to the 63rd American Academy of Forensic Sciences is complete.
- Travel arrangements have begun for four analysts to attend the 22nd International Symposium on Human Identification in National Harbor, Maryland on October 3-6, 2011. Hotel arrangements have been made, and the travel request paperwork has been sent to the Department of Public Safety for approval.

Objective #3:

- Three DNA extraction hoods have been purchased, delivered, and put into place in the DNA section of the laboratory. These three extraction hoods have now given every DNA analyst/CODIS analyst their own working space. Currently the laboratory has eleven hoods in all with eight of the hoods being used by DNA analysts, one hood for CODIS analyst, and two hoods for analysts in training. The extraction hoods offer each analyst a sterile environment in which they can cut samples, extract DNA, and work with their samples. Purchasing of 3 extraction hoods is complete.
- UBFS requested to extend the service agreements for three 3130 capillary electrophoresis instruments and for two 9700 real time PCR quant instruments. These contracts have been extended through the end of this grant period, March 2012. Purchasing service agreements is complete.
- UBFS hosted a three-day training on the use of GeneMapper IDX. Four analysts from the DNA section attended all three days of training. Two CODIS analysts and two casework analysts attended this users training. The training showed the capabilities of GeneMapper IDX, how to use and validate the new software, and gave the analysts a good understanding of how the system works. UBFS has already purchased license agreements for GeneMapper IDX and plans to validate the system for CODIS sample review and then for casework use. Purchase and attend GeneMapper IDX training is complete.

- Recommendations from the departments IT staff were made to UBFS to replace outdated desktop computers in the biology section. Many of the computers the analysts were using were outdated and did not function properly. UBFS has replaced the biology section computes and monitors and purchases license agreements for software for each computer. Keeping the computers up to speed keeps analyst from losing time trying to manage their data. Purchasing the computers, monitors and software has been completed.
- UBFS is using an innovative idea when processing cases. Purchasing iPads will allow for analyst to take notes directly from their bench to case folders without writing or printing a single word. UBFS is excited to try this new approach to case processing. The iPads have been approved by the department and the order has been placed. Unfortunately, due to the natural disasters in Japan the shipment of the iPads has been delayed. No delivery date has been set, but UBFS has received some accessories (keypad covers).
- UBFS is anticipating the arrival of the new alternate light sources (ALS). ALS can be used to help identify difficult stains UBFS feels that the new light sources will speed up the process. Currently the laboratory is using less powerful and aging light sources. From our research and testing the light sources that are being purchased should make a big improvement when searching for difficult stains.
- No DNA reagents have been purchased with this grant.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Objective #1:

- BFS has successfully completed objective #1. The forensic scientist completed her training on August 25, 2011. Since this time she has worked independently in the serology section of the laboratory. Part of her training included a written test, several competency cases, and a mock trial. She completed all the requirements to begin working cases on her own. Since completing her training she has completed nearly 70 cases. She has been the dominant worker in the serology section. The last quarter of 2011 BFS experienced several major homicides and several public threat cases that took several weeks of work for our experienced analysts. Our new serology analyst has been carrying the serology section by completing most of the cases submitted for analysis. Without the work of the new analysts the biology section would have suffered greatly. This analyst will continue to screen evidence for the presence of biological samples and prepare cases to go to DNA.

Objective #2:

- BFS sent four analysts to attend the 22nd International Symposium on Human Identification in National Harbor, Maryland on October 3-6, 2011. All travel for this training has been completed. The four analysts reported that the symposium was a success and very beneficial. New SWGDAM interpretation guidelines that were discussed at this symposium have been shared with our entire DNA staff and changes have been implemented because of the knowledge gained through attending this symposium. Objective two has successfully been completed.

Objective #3:

- In July 2011, BFS received the ipads for the biology section. Over the past five months the biology section has been implementing their use into casework, meetings,

presentations, and daily use. Biology analysts are capable of taking all serology and most of DNA case notes with their ipads. Many documents have been converted to a pdf format with dropdown menus that have proven very useful when recording DNA notes. BFS continues to find new and innovative ways to use the ipads. Most recently the ipads have been used to deliver presentations on DNA to law enforcement agencies. The goal with the ipads is to streamline casework and provide a paperless route of note taking and documentation. The success the biology section has seen with the ipads has led the entire laboratory to receive them for use in other disciplines. Purchasing and implementing the ipads into casework is complete.

- In August 2011, BFS received new alternate light sources. The new Crime-Lite's are excellent alternate light sources. They are much brighter and more powerful than the previous lights used. The new lights allow analysts to search items of clothing for difficult to see biological stains. Two colors were purchased, blue (420-470 nm wavelength) and white (400-700 nm wavelength). Both colors are constantly used to help locate different types of stains. Purchasing and implementing the alternate light sources is complete.
- Two pieces of equipment are left to purchase, the crosslinker and pipettes. The two pieces of equipment will be purchased within the next month.
- All amplification kits and quantitation kits have been purchased. BFS maintains the ability to complete the case requests submitted to our laboratory through funds received through this grant. Eleven amplification kits (Identifiler Plus and YFiler) have been purchased and are currently being used. Four quantitation (Quantifiler Duo) kits have been purchased and are currently being used. BFS continues to process samples from homicides, sexual assault, aggravated assaults, robbery, burglary, theft, possession of firearms, and many other different types of cases. All of these cases are processed with the supplies purchased with this grant. One challenge BFS has faced is predicting the number of kits needed to process all of these crimes. BFS has experienced several major homicides that required many samples to be processed as well as simpler theft or possession cases that may only contain one or two samples. Purchasing of supplies for DNA testing is complete. Over the life of this grant this analyst analyzed 84 cases

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Objective #1:

- BFS has successfully completed objective #1. The forensic scientist continues to work diligently in the screening of cases for potential DNA analysis. Over the past six months this analyst has been extremely valuable to the biology section. During this time frame one serologist has been removed from casework to work on DNA training. Two new analysts have been hired (one part time and one full time) which have needed training by the serology technical leader. With all of this going on the forensic scientist hired with funds from this grant has been the work horse of the screening section. In addition to carrying most of the caseload this analyst has been pulled to work two major cases that each took about a month to analyze. The analyst worked closely with a DNA analysts and the agency to ensure the results were useful to the case. BFS continues to benefit from this position. Funding for this position will remain until December of 2012, at which point this grant will be closed.

Objective #2:

- Objective #2 has been completed (see previous reports).

Objective #3:

- iPad update: BFS continues to use the ipads in casework documentation. The ipads are being used for presentations, document reviews, and work sheet use. BFS will continue to look for innovative ways for further use of the ipads.
- Crime-Lite update: in the past two months two of the light sources have had to be sent back to the manufacturer for repair. The lights contain four columns of lights in the head. In two of the crime-lites two columns or eight lights have gone out. The company has been very gracious and easy to work with to get the lights fixed.
- Two pieces of equipment are left to purchase, the crosslinker and pipettes. These two items have not been purchased. When it was time to purchase these items the department asked for a purchasing freeze, so no purchases could be made. Now that we are in a new fiscal year the two pieces of equipment will be purchased within the next month.

FINAL REPORT 5: July 1, 2012 – December 31, 2012

Objective #1:

- BFS has successfully completed objective #1. This grant has been closed (December 2012). The forensic scientist hired with funds from this grant has been so valuable to the success of the biology section of the crime laboratory. As mentioned in previous reports, this analyst carried the majority of the case work throughout this grant period. This analyst helped train two new analysts, and has begun helping train a third analyst. BFS started a new program at the end of 2012 called the Utah Quick Kit analysis program (UQuiK). This analyst has played a major role in implementing that program and continues to be one of the major contributors to the success of the quick testing of sexual assault kits. All cases worked under the UQuiK program used supplies purchased with FY11 grant funds and will be reported under that award. Within the next few months this analyst will begin training in DNA analysis. Over period of this grant the forensic scientist completed over 136 cases. These are cases completed by the analyst alone. This analyst also worked many other cases jointly with a DNA analyst for the UQuiK program, (all of which are reported under cases completed with funds from the FY11 grant).

Objective #2:

- Objective #2 was completed during reporting period July – Dec. 2011. The training that is received by BFS analysts at these training's is invaluable. DNA analysts are able to bring ideas and techniques back into the laboratory from these trainings. Many great ideas and techniques have been implemented because of the training and associations made during these trainings.

Objective #3:

- BFS purchased the crosslinker and pipettes. The crosslinker is used for sterilization and the pipettes are used in DNA extraction areas. The new pipettes have completed the equipment needs of a DNA extraction hood. BFS has an analyst in DNA training and the new pipettes have completed his set needed for analysis. The crosslinker has helped by having an area where analysts can sterilize tubes and equipment without running to the other section of the laboratory. Objective #3 is complete.

BFS continues to face challenges, with increased case submissions, increased requests for rush cases (mostly due to court dates) and an increase in items and samples analyzed. BFS is

continually looking for ways to improve the efficiency and the productivity of the biology section. BFS implemented a new approach to sexual assault kit analysis called the UQuiK program. This program was implemented the end of 2012, and it is anticipated that the success of this case will really be seen in the next year, even though we have seen success with individual cases already. BFS continues to make improvements to case processing and reporting to help decrease the turnaround time of cases. Recently, it was decided that DNA reports will be written in the UETS (Utah Evidence Tracking System) rather than in a word document. This will speed up the analysts time spent writing the report and it will help decrease the amount of time in review.

One of the biggest challenges BFS is facing is employing enough analysts to keep up with the increase in demand for casework. The main focus and goal for the coming year is to try and obtain new positions for the biology section. BFS is working with the department and legislatures to try and accomplish this goal.

Over the life of this award equipment and supplies were purchased that greatly affected the work that the biology section has accomplished. The reagent supplies have been used to sustain the DNA work. BFS would not be able to work as many DNA cases that are worked without this award and funds to purchase these supplies and the equipment.

There is no doubt that the FY10 DNA Backlog Reduction Program has sustained the biology program and continues to be instrumental in the success of the biology section.

UQuiK

UQuiK = Utah Quick Kit Analysis of sexual assault kits. Beginning in November 2012 through December 2012 BFS ran the UQuiK trial program to see if implementing this program would be an efficient and effective way to process sexual assault cases. Over a five week period three batches consisting of 5 cases per batch were analyzed using the UQuiK process. The UQuiK program is for sexual assault cases that are submitted to the laboratory that contain a sexual assault collection kit. When the case is submitted to the laboratory, a serologist assigned to the program, will review the evidence collected within the sexual assault kit and based on evidence collected and the medical report form (included in kit) will choose 2-4 samples most likely to contain probative evidence. Those samples are then cut and passed along to the DNA analyst assigned to the program. No serological analysis is done on these samples, and no serological analysis is done on any other evidence submitted with these cases. The DNA analyst processes the samples that were cut and writes a report. The trial period of this program proved to be successful.

4 cases	No probative profile / No male DNA detected
1 case	Male profile detected = boyfriend
3 cases	Male ID+ only profiles (other than victim)
3 cases	Y only profiles (other than victim)
4 cases	ID+ and Y profiles (other than victim)

Of the 7 ID+ male profiles obtained during the trial period of this program, 6 of them are CODIS eligible and have been submitted. 1 CODIS hit has resulted from these cases.

BFS decided to implement this program beginning January 2013. BFS has one DNA analyst and one serologist assigned to this program (ideally 2-3 DNA analysts and 2 serologists would be preferred). To date, the first batch (Batch 1) has been processed and is currently in technical

review. Batch 1 consisted of 5 cases. Batch 2 has been worked and all data and reports are currently being compiled. Batch 2 consisted of 5 cases.

Batch 1

1 case	Stopped at quant
1 case	No probative profile
1 case	ID+ matched suspect
1 case	Y only
1 case	ID+/Y unknown perp = CODIS

Batch 2

2 cases	Stopped at quant
1 case	No probative profile
2 cases	ID+/Y profiles – 1case match suspect / 1case no suspect but CODIS eligible

The UQuiK program is not only successful in finding and developing profiles in sexual assault cases it is also a way to speed up the process of sexual assault cases. The time frame needed for a UQuiK case is less than 21 days. Currently, BFS is processing sexual assault cases that have been backlogged for longer than 60 days. The current turnaround time for UQuiK cases that were backlogged is 78 days. That includes the time the case has been waiting for analysis. 78 days is still better than the BFS current turnaround time of 111 days. Once all the cases are caught up, BFS anticipates less than 21 days from submission to completion for UQuiK cases.

FY10 Recipient Name: Virginia Department of Forensic Science

Award Number: 2010-DN-BX-K120

Award Amount: \$920,520

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The Department of Forensic Science (DFS) received funding under this grant to pay the salaries and benefits of four full-time scientists to conduct scientific exams on items of evidence and reference samples. DFS also received funding to hire one full-time forensic laboratory specialist who will contact law enforcement agencies on a regular basis to determine the status of backlogged cases and will assist the DNA examiners with laboratory support functions. In addition, funding was provided for the statewide DNA annual mandatory training in accordance with the FBI Quality Assurance Standards and for the purchase of expert systems to perform quality control steps for case work and data bank samples. Supplies and reagents needed for DNA analysis on backlogged cases will also be purchased. It is anticipated that with the funds provided, DFS will be able to complete 576 backlogged cases during the grant period.

The Goals of this grant project are as follows:

1. Reduce case backlog in the Forensic Biology section
2. Increase the DNA analysis capacity in the Forensic Biology section

In order to meet these goals, the following objectives were proposed in the application:

1. Hire four full-time scientists to analyze backlogged cases

2. Hire one full-time FLS to contact law enforcement agencies and to assist with support functions in the lab

3. Purchase supplies needed for DNA analysis

4. Purchase expert software systems

5. Complete 576* 3200 backlogged cases

*Note that this estimated number of backlogged cases to be completed was based upon a misunderstanding regarding the reporting of statistics. Thus, the revised number of cases expected to be completed using the supplies purchased with this award is now 3200 cases.

This is based on the number of half-reactions in each kit (800), number of kits proposed to be purchased (20), and the average number of samples per case (5).

6. Attend annual mandatory DNA training seminar

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

During this reporting period, the following tasks were completed toward meeting the grant objectives:

1. In this reporting period, no scientists have been hired using funds from this award.

2. In this reporting period, the FLS has not yet been hired using funds from this award.

3. No supplies were ordered in this reporting period (October 1 – December 31, 2010).

4. No equipment was ordered in this reporting period (October 1 – December 31, 2010).

5. During this award period, no cases were completed using funds from this award, as no supplies or equipment have been purchased to date.

*Note that this estimated number of backlogged cases to be completed was based upon a misunderstanding regarding the reporting of statistics. Thus, the revised number of cases expected to be completed using the supplies purchased with this award is now 3200 cases. This is based on the number of half-reactions in each kit (800), number of kits proposed to be purchased (20), and the average number of samples per case (5).

6. In this reporting period, consistent with the goals set out in this award, two laboratory personnel were sent to the 21st International Symposium on Human Identification on October 11-14 in San Antonio, TX.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

During this reporting period, the following tasks were completed toward meeting the grant objectives:

1. In this reporting period, two scientists have been hired using funds from this award.

2. In this reporting period, the one FLS has been hired using funds from this award.

3. Twenty PowerPlex[®] 16 kits, 22 DNA IQ[™] kits, and 19 Plexor[™] HY kits were ordered in this reporting period (late June). These supplies were ordered but not in use during this reporting period.

4. No software was ordered in this reporting period.

5. During this reporting period, no backlogged cases were completed using supply funds from this award, as the supplies ordered were purchased at the end of the reporting period.

6. In this reporting period, consistent with the goals set out in this award, three laboratory personnel were sent to the American Academy of Forensic Sciences Annual Meeting in Chicago, IL.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

During this reporting period, the following tasks were completed toward meeting the grant objectives:

1. In this reporting period, two full-time scientists continued employment using funds from this award. In October 2011, two additional full-time scientists were hired using funds from this award.
2. In this reporting period, one FLS continued employment using funds from this award. This FLS ended employment in November, 2011. A new FLS has not been hired at this time.
3. No supplies were ordered in this reporting period.
4. No software was ordered in this reporting period.
5. During this reporting period, 2273 cases were completed using supply funds from this award.
6. In this reporting period, consistent with the goals set out in this award, registration and travel costs were paid for forty scientists to attend the 22nd International Symposium on Human Identification on October 3-6 in National Harbor, MD.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

During this reporting period, the following tasks were completed toward meeting the grant objectives:

1. In this reporting period, four full-time scientists continued employment using funds from this award.
2. In this reporting period, the FLS position was not re-filled.
3. In this reporting period, fourteen (14) Powerplex 16™ kits were ordered.
4. Expert system software (TruAllele and Armed Expert) was purchased in this reporting period using funds from this award. In addition, three real-time PCR instrument, CODIS servers (4), CODIS computers (11), and CODIS monitors (4) were purchased in this reporting period using funds from this award.
5. During this reporting period, 1872 cases were completed using funds from this award. Note: the optional reporting metric was answered as N/A because all funded analysts utilized federally funded supplies to work cases.

FINAL REPORT:

During the award period (October 1, 2010 – June 30, 2012), the following tasks were completed toward meeting the grant objectives:

1. Four (4) scientists were hired using funds from this award.
2. One (1) FLS (technician) was hired and continued employment through November 2011.
3. Thirty four (34) PowerPlex® 16 kits, twenty two (22) DNA IQ™ kits, and nineteen (19) Plexor™ HY kits were ordered using funds from this award.
4. Expert system software (TruAllele and Armed Expert) was purchased. In addition, three real-time PCR instruments, CODIS servers (4), CODIS computers (11), and CODIS monitors (4) were purchased using funds from this award.
5. 4145 cases were completed using funding provided for supplies.
6. Consistent with the objective set out in this award, scientists were sent to seminars for mandatory DNA training, as delineated below. Registration and travel costs were paid for forty scientists to attend the 22nd International Symposium on Human Identification

on October 3-6, 2011 in National Harbor, MD. Three laboratory personnel were sent to the American Academy of Forensic Sciences Annual Meeting in Chicago, IL. Two laboratory personnel were sent to the 21st International Symposium on Human Identification on October 11-14, 2010 in San Antonio, TX.

As a result of these objectives, the DNA backlog was reduced from 996 cases to 790 cases during the award period. In addition, in accordance with our goal to increase the capacity of the forensic biology section, the turn-around time decreased from 107 days to 98 days by the end of the award period.

FY10 Recipient Name: Vermont Department of Public Safety

Award Number: 2010-DN-BX-K055

Award Amount: \$150,000

Final Report: GOALS AND OBJECTIVES OF PROJECT:

The Goals of this grant are:

- Goal 1: Hire (or retain) a trained serologist to perform serological casework analysis
- Goal 2: Manage cases by determining which cases are active and need to be worked versus those that have been adjudicated or otherwise are no-longer required.
- Goal 3: Provide overtime for the analysis of serology and DNA casework
- Goal 4: Provide funds to purchase DNA analysis supplies
- Goal 5: Provide funds to support the purchase of a new CE instrument.
- Goal 6: Perform serological analysis, DNA extraction and STR analysis on 60 cases
- Goal 7: Have pipettes sent for calibration

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

We received this grant in September of 2010 and we have not used funds from this award. We will start using these funds early in 2011. Therefore, none of the goals have been met.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

We received this grant in September of 2010 and started using the funds in the beginning of 2011. We have made progress on meeting the goals of this award as detailed below.

- Goal 1: Completed- we were fortunate to retain the individual who was previously employed under the previous award. She is currently performing the requisite duties- casework management, and serological analysis in preparation for DNA analysis.
- Goal 2: On-going- 72 cases were administratively reviewed resulting in the closing (no exam required) of 21 serology cases and 11 DNA cases.
- Goal 3: Only limited funds have been expended to date for overtime. We have been making satisfactory progress with meeting the goals of the grant without needing to use overtime funds
- Goal 4: Supplies have been purchased and further purchases are on-going
- Goal 5: The new CE instrument has been purchased and has been validated for use for CODIS samples. The new Applied Biosystems 3500 genetic analyzer was received in the early part of 2011. We have also done some additional validation work to prepare the lab to use the direct amplification kit provided by Promega for CODIS samples. This will eliminate the need to extract samples and increase our productivity. This is important as we move from legislation requiring convicted felons to give a DNA sample to all felon

arraignees. We anticipate a threefold increase in the number of samples requiring analysis from this new legislation. The combination of increased sample capacity of the AB 3500 genetic analyzer coupled to the direct amplification technology should allow us to keep current with the requirements of the new legislation. We are waiting for a NDIS decision concerning the use of direct amplification samples for CODIS prior the implementation of this technology. We have also made progress for the use of the new CE instrument for casework applications.

Goal 6: During this time period, 70 cases were subjected to either all or one aspect of the above. No cases were counted twice. If a serology case was analyzed with these funds and transferred to DNA for analysis, the case was counted only one time for purposes of grant counting.

Goal 7: We have sent half our pipettes for calibration the other half will be sent in the next few weeks.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

We received this grant in September of 2010 and started using the funds in the beginning of 2011. We have made progress on meeting the goals of this award as detailed below.

Goal 1: Completed- we were fortunate to retain the individual who was previously employed under the previous award. She is currently performing the requisite duties- casework management, and serological analysis in preparation for DNA analysis.

Goal 2: On-going- cases were administratively reviewed resulting in the closing (no exam required) of 19 serology cases and 12 DNA cases.

Goal 3: Only limited funds have been expended to date for overtime. We have been making satisfactory progress with meeting the goals of the grant without needing to use overtime funds

Goal 4: Supplies have been purchased and further purchases are on-going

Goal 5: The new CE instrument has now been validated casework.

Goal 6: During this time period, 40 additional cases were subjected to either all or one aspect of the above. No cases were counted twice. If a serology case was analyzed with these funds and transferred to DNA for analysis, the case was counted only one time for purposes of grant counting.

Goal 7: We have sent half our pipettes for calibration the other half will be sent in the next few weeks.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012 (FINAL)

We received this grant in September of 2010 and started using the funds in the beginning of 2011. We have made progress on meeting the goals of this award as detailed below.

Goal 1: Hire (or retain) a trained serologist to perform serological casework analysis
Completed- the trained individual who was previously employed under the previous award remained with us thanks to the funding from this grant throughout the grant award. She performed the requisite duties- casework management, and serological analysis in preparation for DNA analysis.

Goal 2: Manage cases by determining which cases are active and need to be worked versus those that have been adjudicated or otherwise are no-longer required.

This has been an on-going task of the above individual, during the course of the grant - cases were administratively reviewed resulting in the closing (no exam required) of 73 serology/DNA cases. This is a significant savings of staff time and resources.

Goal 3: Provide overtime for the analysis of serology and DNA casework

Only limited funds have been expended to date for overtime. A GAN was requested and approved to apply those funds to the salary of the above hired serologist.

Goal 4: Provide funds to purchase DNA analysis supplies

Supplies have been purchased and used to analyze cases.

Goal 5: Provide funds to support the purchase of a new CE instrument.

The new CE instrument has now been validated casework.

Goal 6: Perform serological analysis, DNA extraction and STR analysis on 60 cases

On this grant award more than 100 cases have been worked and at least 65 cases have had DNA analysis performed on them.

Goal 7: Have pipettes sent for calibration.

This has been completed.

FY10 Recipient Name: Washington State Patrol

Award Number: 2010-DN-BX-K174

Award Amount: \$1,004,276

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

1. To complete over 636 case requests with supplies and/or overtime.
2. Retain extra casework capacity of two additional Forensic Scientist positions to continue to allow more work to be done by all analysts on backlogged cases.
3. Complete the validation of reduced volume DNA Quantifiler and single amp STR kits PowerPlex HS and Identifiler Plus.
4. Purchase 4 bench-top microcentrifuges in the Seattle DNA laboratory to replace the old equipment which is worn out and prevent them from becoming an analysis bottleneck.
5. Retain the Information Technologist level 3 (IT3) position to maintain and update the state-wide instrument network and continue to develop the electronic forms program.
6. The contracting of a retired WSP CLD DNA forensic scientist to do technical reviews of outsourced property crime DNA analysis frees up WSP CLD forensic scientists to do work on DNA analysis of the additional backlogged case requests targeted in this proposal.

Changes to project:

In addition, due to unanticipated state funds initially saved for an expected supplies budget cut that never occurred, a grant adjustment request was submitted that led to the following new goals:

7. Purchase of DNA-View statistics software with operator training for complex paternity and kinship case calculations. The package includes training for 4 operators.
8. Purchase of the TempGenius temperature monitoring system for all evidence and reagent storage areas in the 5 casework DNA labs.
9. Purchase of 10 minicentrifuges, 7 pipettor sets, 1 evidence freezer, 1 UPS power supply, 4 vacufuges, 3 thermomixers, 3 stereoscopes, 6 cameras, 2 alternative light sources, 5

- mag lites with filter for evidence examination, 1 lab cart, 5 cooling blocks, a reagent holder, a UV cross-linker for eliminating DNA contamination, a multi-channel pipettor and a pH meter for replacing/updating old equipment in the casework laboratories.
10. Purchase of a second 3500 Genetic Analyzer instrument for the Marysville Lab to eliminate a bottleneck and provide a backup if one instrument breaks down.

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

- Goal 1: Progress – There were 1210 case requests as of October 1st, 2010. In this reporting period the 5 laboratories primarily used grant funded supplies and/or overtime to complete 477 of these backlogged casework requests. This resulted in 166 DNA profiles being uploaded into CODIS and produced 54 Hits.
- Goal 2: Progress – The forensic scientist position for this award in the Marysville Laboratory is already filled and the individual is performing casework analysis. The forensic scientist position for this award in the Vancouver Laboratory is already filled and the individual is performing casework analysis. Upon completion of the 2009-DN-BX-K141 funds these individuals will transition to this award.
- Goal 3: Progress – An evaluation of the 2 single amp kits was completed and a full validation of the Identifiler Plus kit is currently underway. No work has been done on the reduced volume Quantifiler validation.
- Goal 4: Progress – these microcentrifuges have not yet been ordered.
- Goal 5: Progress – The IT3 position for this award is already filled however the person is currently on maternity leave and her duties are being temporarily filled by another person. Upon completion of the 2009-DN-BX-K141 funds this individual will transition to this award.
- Goal 6: Progress – The contract for this award has not been set up at this time.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

- Goal 1: Progress – The backlog has been reduced from 1210 to 1047 case requests as of June 30th, 2011. In this reporting period the 5 laboratories primarily used grant funded supplies and/or overtime to complete 669 of these backlogged casework requests. This resulted in 289 DNA profiles being uploaded into CODIS and produced 130 Hits. Cumulatively 1146 case requests have been completed using funded supplies and/or overtime. Goal completed.
- Goal 2: Progress – These 2 individuals were transferred to state funded positions. Goal completed
- Goal 3: Progress – Goal completed.
- Goal 4: Progress – Goal completed.
- Goal 5: Progress – Goal completed.
- Goal 6: Progress – The contract for this award has not been set up at this time since there have been insufficient numbers of cases submitted for review.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

- Goal 1: Progress – The backlog has been reduced to 993 case requests as of December 31st, 2011. In this reporting period the 5 laboratories used grant funded supplies and/or overtime to complete an additional 97 backlogged casework requests. This resulted in another 19 DNA profiles being uploaded into CODIS. An additional 11 Hits occurred

in this period. Cumulatively 1243 case requests have been completed using funded supplies and/or overtime. Goal completed.

Goal 2: Progress – Goal completed

Goal 3: Progress – Goal completed.

Goal 4: Progress – Goal completed.

Goal 5: Progress – Goal completed.

Goal 6: Progress – The contract for this award was not set up and abandoned since there have been insufficient numbers of cases submitted for review.

Progress on proposed changes:

Goal 7: Progress – A cost estimate has been obtained for a copy of DNA-View statistics software with operator training.

Goal 8: Progress – A cost estimate has been obtained for the Trueallele system with training for 4 operators. Goal changed to purchase another 3500 Genetic Analyzer.

Goal 9: Progress – A cost estimate has been obtained for 5 QIAcube centrifuges. Goal changed to purchase replacement lab equipment.

Challenges:

Productivity per analyst dropped 19% over the last reporting period due to a combination of new and cyclical challenges. Training and validation time for implementing new technology results in a temporary reduction in productivity and capacity. Continuing variation in the numbers of bench level staff has occurred. One cause is staff turnover which involves the expenditure of resources for recruitment and training. The other cause is low mean age of the staff which is subject to frequent maternal and paternal leave. The net result is a high proportion of staff is inexperienced and generally has lower rates of throughput. Much DNA bench time is also lost to crime scene response duties for those analysts so assigned.

During this grant period there was a major technology change made for the casework laboratories which impacted both manual and automated protocols. This was the switch from Profiler Plus and COfiler DNA kits to the Identifiler Plus DNA typing kit. Much time was taken up in training, practice and competency testing. Also there was a higher proportion of property crime case requests completed primarily in the Vancouver lab as part of a POPS demonstration project being wrapped up. These requests were limited to 2 samples per request and likely attributed to the lower average sample output per analyst compared to the last grant period. Failure to retain staff and maternity leave reduced the number of DNA analyst Full Time Equivalents during this grant period. The Vancouver DNA lab had another analyst quit the WSP CLD for a better paying position and another analyst transferred back to the chemistry section. The Seattle DNA lab had another analyst go out on maternity leave. The loss of these 2 experienced staff members reduced overall capacity. There are 5 vacant DNA analyst positions which could be filled in 2012 depending on how the state budget is determined. It is likely these positions will be filled with fresh graduates and extensive training will be required. There were 2 analysts in the Spokane lab who have just completed their DNA training and will start to contribute to casework in 2012. In the Seattle DNA lab there are still 2 analysts in training that should be finished sometime in 2012. Another DNA analyst will be on maternity leave from the Seattle lab early in 2012 and more are likely to follow.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

Goal 1: Progress – Goal completed.

Goal 2: Progress – Goal completed

Goal 3: Progress – Goal completed.

Goal 4: Progress – Goal completed.

Goal 5: Progress – Goal completed.

Goal 6: Progress – The contract for this award was not set up and abandoned since there have been insufficient numbers of cases submitted for review.

Progress on proposed changes:

Goal 7: Progress – Approval from the WSP IT department has been obtained to purchase a copy of DNA-View statistics software and install it on the network.

Goal 8: Progress – Approval from the WSP IT department has been obtained to purchase and install the software for the TempGenius temperature monitoring system in the 5 casework DNA labs.

Goal 9: Progress – The process of obtaining quotes and preparing ordering documentation has started for the purchase of the 10 minicentrifuges, 7 pipettor sets, 1 evidence freezer, 1 UPS power supply, 4 vacufuges, 3 thermomixers, 3 stereoscopes, 6 cameras, 2 alternative light sources, 5 mag lites with filter for evidence examination, 1 lab cart, 5 cooling blocks, a reagent holder, a UV cross-linker for eliminating DNA contamination, a multi-channel pipettor and a pH meter for replacing/updating old equipment in the casework laboratories.

Goal 10: Progress – The purchase of a 3500 Genetic analyzer for the Marysville lab has been initiated with delivery planned for July 2012.

Challenges:

Despite manpower challenges and state budget cuts much progress has been made on reducing the backlog since the beginning of the award period. Overall there is a 31% reduction of the backlog from the 1210 requests at the beginning of the award to 829 at the end of this reporting period. Several older case requests were completed which affected the average response time for completion of cases. The switch from Profiler Plus and COfiler DNA kits to the Identifiler Plus DNA typing kit has improved analysis efficiency but more time is being used for interpretation of mixture results. Funds needed for supplies and overtime have been exhausted during this reporting period and the goal to complete 636 lab requests with these funds was met and exceeded during the previous reporting period. There are 148 additional cases to be reported in this period where a portion of the work was done with overtime funds from this award. Thus there were an additional 35 profiles uploaded into NDIS and there are 27 additional hits obtained to report from cases completed under this award. At this point only the capacity enhancement portion of the award remains following the current change request for the budget.

Due to the lab supply budget from the state not being cut as bad as initially thought the grant award target was change adjusted from supplies to software, and then to replacement lab equipment as the lab staff copes with the changing work environment. Consequently Goals 8 and 9 were adjusted and an additional goal (Goal 10) was added for a new 3500 Genetic Analyzer instrument.

A problem involving a freezer malfunction going undetected over a weekend in the Vancouver lab supported the acquisition of a temperature monitoring system (TempGenius) that allows lab staff to be notified if a malfunction occurs after hours. In lieu of statistics software and automated centrifuges that was proposed during the first change adjustment submitted, lab staff requested the filling of a list of small lab equipment that is at or near the end of their functionality which needed replacement.

Staff reduction due to maternity leave continues to reduce the number of DNA analyst Full Time Equivalents during this grant period. Also budget cuts have resulted in 7 of the DNA analyst

vacancies not to be filled. Two analysts in the Spokane lab have completed their DNA training and have started casework. One vacancy was filled in the Spokane Lab and training is in progress. In the Seattle DNA lab there are still 2 analysts in training that should be finished by the end of September 2012. One DNA analyst is on maternity leave from the Seattle lab early in 2012 and another two will be starting maternity leave in the fall. Several more DNA analysts have been recruited for the Crime Scene Response Team and have started training and attending scenes which has affected their DNA casework productivity.

FINAL REPORT: July 1, 2012 – December 31, 2012

Goal 1: Progress – Goal completed.

Goal 2: Progress – Goal completed

Goal 3: Progress – Goal completed.

Goal 4: Progress – Goal completed.

Goal 5: Progress – Goal completed.

Goal 6: Progress – The contract for this award was not set up and abandoned since there have been insufficient numbers of cases submitted for review.

Progress on grant adjustment goals:

Goal 7: Progress – DNA-View statistics software was installed and the DNA Technical Leader, Standards and Accountability DNA QA Support FS3, and 3 FS4 DNA tech leads received introductory training on its use. Goal completed.

Goal 8: Progress – The TempGenius temperature monitoring system is currently being installed in the 5 casework DNA labs. Goal completed

Goal 9: Progress – The purchase is completed of the 10 minicentrifuges, 7 pipettor sets, 1 evidence freezer, 1 UPS power supply, 4 vacufuges, 3 thermomixers, 3 stereoscopes, 6 cameras, 2 alternative light sources, 5 mag lites with filter for evidence examination, 1 lab cart, 5 cooling blocks, a reagent holder, a UV cross-linker for eliminating DNA contamination, a multi-channel pipettor and a pH meter for replacing/updating old equipment in the casework laboratories. All items are currently in use. Goal completed.

Goal 10: Progress – The 3500 Genetic analyzer for the Marysville lab has been purchased, set up and is ready for validation. Goal completed.

Summary:

The main theme of the grant was to continue to reduce the backlog of DNA cases and maintain capacity and quality during a time of serious state budget cuts. This award resulted in maintenance of quality Forensic DNA service and prevented a severe crisis in the state's criminal justice system that would have resulted without the availability of DNA evidence. The critical supplies, overtime and new equipment provided by this award allowed progress to be made in reducing the DNA backlog in the face of manpower challenges and state budget cuts. Overall there was an 33% reduction of the backlog from the 1210 requests at the beginning of the award to 813 at the end of this reporting period. Average response times increased during the course of the award as several old cases in the backlog were completed. The average response time at the end of the award period went back down to 110 days which was what it was for the beginning of the award. The switch from Profiler Plus and COfiler DNA kits to the Identifiler Plus DNA typing kit improved analysis efficiency for analysis but caused more time to be used for interpretation of mixture results.

Cumulatively 1391 case requests have been completed using funded supplies and/or overtime. This resulted in 509 DNA profiles being uploaded into CODIS and produced 227 Hits. Due to

the lab supply budget from the state not being cut as bad as initially thought the grant award target was change adjusted from supplies to software, and then to replacement lab equipment as the lab staff coped with the changing work environment. Consequently Goals 8 (TempGenius) and 9 (small equipment) were adjusted and an additional goal (Goal 10) was added for a new 3500 Genetic Analyzer instrument. These new goals have now been completed.

A problem involving a freezer malfunction going undetected over a weekend in the Vancouver lab inspired the acquisition of a temperature monitoring system (TempGenius) that allows lab staff to be notified if a malfunction occurs after hours. This system has been acquired and is currently being installed in the 5 casework labs. In lieu of statistics software and automated centrifuges that was proposed during the first grant change adjustment submitted, lab staff had requested the filling of a list of small lab equipment that is at or near the end of their functionality which needed replacement. This equipment was procured and is currently operating in all labs. The DNAView software for kinship analysis was obtained toward the end of this award and has already been used to help resolve a possible issue with one case. All the final goals of this award have been successfully met.

The purchase of twenty eight 8 drawer metal filing cabinets to transfer CODIS submissions from cardboard boxes to better accessible and more secure storage was moved in to this award from a newer award (2011-DN-BX-K513). Stored CODIS submissions were transferred from cardboard boxes to these new cabinets to meet one of the goals of that newer award and permit a sooner closure of this award.

FY10 Recipient Name: Wisconsin Department of Justice

Award Number: 2010-DN-BX-K151

Award Amount: \$713,980

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

Goal 1: To increase case throughput of the DNA lab by having individuals dedicated to screening evidence and utilizing the DNA analysts to analyze DNA evidence, perform peer review, and write reports.

Objective: Hire 3 DNA lab technicians to assist with the screening of cases.

Objective: Purchase DNA analytical kits (Note: Added with scope GAN 004 approved on July 25, 2011)

Goal 2: To increase the efficiency of the DNA databank unit

Objective: Purchase a DNA punch system

Objective: Purchase Convicted Offender Collection kits

Objective: Upgrade the LIMS system

Goal 3: Perform minor renovation to convert a file room into an office space for an additional new DNA supervisor at the Milwaukee Lab. (Note: Added with Scope GAN 003 approved on June 24, 2011.)

Goal 4: Provide required continuing education/training

Objective A: Fund analysts' travel to conferences and training opportunities

Objective B: Perform a site visit to outsource lab

(Note: Added with scope GAN 004 approved on July 25, 2011)

Goal 5: Perform minor renovation to convert existing lab space to accommodate 6 new DNA positions granted by the WI State Legislature in the Madison lab. (Note: Added with scope GAN 006 approved on October 06, 2011)

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal 1- Progress-No activity has occurred during this reporting period. We are currently working with our HR depart to beginning the hiring process for this goal. To date we have not hired any DNA lab technicians.

Goal 2- Progress-No activity has occurred during this reporting period.

DNA punch system-not yet purchased

Convicted Offender Collection kits-not yet purchased

Upgrade the LIMS system-not yet purchased

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

As we are trying to spend down the remainder of the FY09 award therefore not much activity has taken place on this award FY10. We started to utilize overtime funds as of April 10, 2011. This progress report reflects all cases worked, all profiles uploaded and all CODIS hits recorded that are directly attributable to the overtime on this award for this reporting period as of April 10, 2011. Total number of cases worked 145, total number of profiles uploaded 42, total number of CODIS hits 15.

The goal of all of the equipment purchases, overtime and hiring of the DNA Lab Techs is to increase the efficiency of the DNA units in both laboratories (Milwaukee & Madison). We are still on target to purchase the remaining equipment and complete the other upgrades prior to award closing date of 03/31/2012.

The following goals and objectives were set forth in this award:

1. Utilize funds to pay for salary and fringe for three DNA Lab techs for the Milwaukee Lab and overtime and fringe to process DNA backlogged cases in both labs (GAN 002). We have started drawing down funds for overtime of DNA backlogged casework. We just completed interviews and will be hiring our three DNA lab techs within the next two weeks at the Milwaukee lab.
2. Purchase a DNA Punch System. This purchased has not been completed during this reporting period.
3. Purchase Convicted Offender Collection Kits. This purchase has not been completed during this reporting period.
4. Utilize funds to consult with our LIMS provider to upgrade the DNA report matrix module. This has not been completed during this reporting period.
5. Perform minor renovation to convert a file room into an office space for an additional new DNA supervisor at the Milwaukee Lab. This has not been completed during this reporting period. (GAN 003).

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

The goal of all of the equipment purchases, overtime and hiring of the DNA Lab Techs is to increase the efficiency of the DNA units in both laboratories (Milwaukee & Madison).

The following goals and objectives were set forth in this award:

1. Utilize funds to pay for salary and fringe for three DNA Lab techs for the Milwaukee Lab and overtime and fringe to process DNA backlogged cases in both labs (GAN 002). We

have started drawing down funds for overtime of DNA backlogged casework and salary for three DNA laboratory technicians. Three DNA lab technicians were hired on August 12, 2011 at the Milwaukee lab.

2. Purchase a DNA Punch System. This purchased has not been completed during this reporting period.
3. Purchase Convicted Offender Collection Kits. This purchase has not been completed during this reporting period.
4. Utilize funds to consult with our LIMS provider to upgrade the DNA report matrix module. This has not been completed during this reporting period.
5. Perform minor renovation to convert a file room into an office space for an additional new DNA supervisor at the Milwaukee Lab. (GAN 003). This has been completed during this reporting period.
6. Provide required continuing education/training. (GAN 004) Sent 6 DNA analysts to the Promega meeting during this reporting period. Sent 8 DNA analysts to the MAFS meeting during this reporting period. Sent 2 DNA analysts to TECAN training during this reporting period.
7. Perform minor renovation to convert existing lab space to accommodate 6 new DNA positions granted by the WI State Legislature in the Madison lab. (GAN 006). This has been completed during this reporting period.

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

The goal of all of the equipment purchases, overtime and hiring of the DNA Lab Techs is to increase the efficiency of the DNA units in both laboratories (Milwaukee & Madison).

The following goals and objectives were set forth in this award:

1. Utilize funds to pay for salary and fringe for three DNA Lab techs for the Milwaukee Lab and overtime and fringe to process DNA backlogged cases in both labs (GAN 002). We have steadily drawn down funds for overtime of DNA backlogged casework and salary for three DNA laboratory technicians. Three DNA lab technicians were employed during this reporting period, however, near the end of the period one of the technicians left employment. We are actively recruiting to fill the position, but anticipate excess salary and fringe funds, which will be change requested to the supplies line. In addition, due to staffing turnover, we anticipate excess OT funds. These will also be change requested to the supplies line.
2. Provide required continuing education/training. (GAN 004) Sent 6 DNA analysts to the Bode East Conference during this reporting period. Excess travel funds will be change requested to supplies.
3. Purchase specified DNA supplies. This was completed during this reporting period expending this funding line.
4. Purchase a DNA Punch System. This equipment item was eliminated and the funds were moved to the supplies line (GAN 11) during this reporting period.
5. Purchase Convicted Offender Collection Kits. This purchase has not been completed during this reporting period.

As indicated above, a change request will be initiated in order to fold all remaining category funds, absent necessary salary and fringe funds, into the supplies line. Those purchases can then be made and the grant will be expended within the allotted timeframe.

FINAL REPORT :

The goal of all of the equipment and supply purchases, overtime, and hiring of the DNA Lab Techs was to increase the efficiency of the DNA units in both laboratories (Milwaukee & Madison). This progress report reflects all cases worked on OT, DNA profiles uploaded to CODIS, and all CODIS hits recorded that are directly attributable to the overtime and supplies provided by this award for the entire grant reporting period. Total number of cases worked 1,824, total number of profiles uploaded 560, total number of CODIS hits 170.

While there was an increase in the average number of days between submission of a sample to the laboratory and delivery of test results to the requesting agency (50 days vs. 58 days), the average number of samples analyzed per analyst per month increased from 39 to 43 during the grant period. These variations are attributable to a large rate of employee turnover, which led to vacancies and subsequent training of new analysts during the grant period. Backlogged forensic cases also increased from the start of the grant period to the end (757 vs. 802). This is also a result of unforeseen employee turnover issues. Additionally, turnover in the laboratory technicians presented a challenge and contributed to the lesser than expected final metrics. In spite of the personnel turnover challenges, the availability of award funds to hire laboratory technicians, purchase DNA supplies, and pay OT to work backlogged cases was extremely beneficial and critical to the Department of Justice's (DOJ) DNA crime laboratory operations. DOJ is appreciative for the opportunity to participate in this important criminal justice program. All grant award monies allotted have been spent within the parameters of the grant award rules.

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

Goal 1: To increase case throughput of the DNA lab by having individuals dedicated to screening evidence and utilizing the DNA analysts to analyze DNA evidence, perform peer review, and write reports.

Objective: Hire 3 DNA lab technicians to assist with the screening of cases. Funds were utilized to pay salary and fringe for three DNA laboratory technicians in the Milwaukee laboratory. In addition, funds were utilized to pay overtime and fringe to process DNA backlogged cases in both labs (budget modification GAN 002, approved 04/19/11). Three DNA laboratory technicians were employed during most of the total grant period, however, near the end of the grant period (during progress report #4) one of the technicians left employment. We were unable to fill the position prior to the end of the grant period. In addition, higher than expected analyst turnover caused a reduction in personnel available to work backlogged cases on overtime prior to the expiration of the grant period. Excess salary, fringe funds, and OT funds were change requested to the supplies line to purchase additional DNA kits (budget modification GAN 012, approved 09/20/12).

Objective: Purchase DNA analytical kits was added to the scope via project scope GAN 004, approved 07/25/11. This objective was fully completed during the grant period through sole source approvals (sole source GAN 008, approved 01/24/12, and sole source GAN 013 & GAN 014 approved on 10/16/12).

Goal 2: To increase the efficiency of the DNA databank unit

Objective: ~~Purchase a DNA punch system~~

The DNA punch system was eliminated as a purchase item (budget modification GAN 011, approved 04/26/12) and reported during progress

report #4. The funds originally allocated to this equipment purchase were determined to be better used to purchase additional DNA supply kits.

Objective: Purchase Convicted Offender Collection kits
This was completed during the grant period.

Objective: ~~Upgrade the LIMS system~~

The upgrade to the LIMS system was not implemented. Some of the LIMS upgrade funds were redirected within the consultant/contractual line to pay unforeseen costs associated with the renovations to the Milwaukee lab (project scope GAN 003 approved 06/24/11) and the Madison lab (project scope GAN 006 approved 10/06/11). The remainder was allocated to the supplies line (budget modification GAN 012, approved 09/20/12) and used to purchase DNA supply kits.

Goal 3: Perform minor renovation to convert a file room into an office space for an additional new DNA supervisor at the Milwaukee Lab. (Added with project scope GAN 003, approved 06/24/11) This was completed during the progress report #3 timeframe (July 1, 2011-December 31, 2011).

Goal 4: Provide required continuing education/training

Objective A: Fund analysts' travel to conferences and training opportunities. A total of 22 DNA analysts were sent to various DNA conferences as described in progress reports 3 & 4 over the course of the grant period, as a result of project scope GAN 004, approved 7/25/11. Additional travel funds were approved via budget modification GAN 005, approved 07/26/11. Near the end of the grant period excess travel funds were change requested to supplies (GAN 012).

Objective B: ~~Perform a site visit to outsource lab~~

This was not completed in the grant period.

Goal 5: Perform minor renovation to convert existing lab space to accommodate 6 new DNA positions in the Madison laboratory as granted by the Wisconsin State Legislature (Added with project scope GAN 006, approved 10/06/11). This was completed during the progress report #3 timeframe (July 1, 2011-December 31, 2011).

FY10 Recipient Name: West Virginia State Police

Award Number: 2010-DN-BX-K083

Award Amount: \$230,014

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

Goal 1 - Customization and implementation of a new LIMS.

Goal 2 - Training of DNA analysts.

Goal 3 - Acquire computer monitors for each workstation.

Goal 4 - Acquire an eight capillary Genetic Analyzer.

Goal 5 - Purchase a new 9700 PCR amplification system to accommodate the increase of samples extracted.

Goal 6 - Upgrading the HVAC system.

NEW GOALS AND OBJECTIVES OF PROJECT (June 30, 2012):

Goal 1 - Customization and implementation of a new LIMS.

Goal 2 - Training of DNA analysts.

Goal 3 - Acquire computer monitors for each workstation.

Goal 4 - Replace/Upgrade failing equipment

Goal 5- Purchase Document Control Software

NEW GOALS AND OBJECTIVES OF PROJECT (Jan. 31, 2013):

Goal 1 - Training of DNA analysts.

Goal 2 - Acquire computer monitors for each workstation.

Goal 3 - Replace/Upgrade failing equipment

Goal 4- Purchase Document Control Software

Goal 5- Fund On-Site Calibration Service for Mechanical Pipettes

NEW GOALS AND OBJECTIVES OF PROJECT (May 30, 2013):

Goal 1 - Training of DNA analysts.

Goal 2 - Acquire computer monitors for each workstation.

Goal 3 - Replace/Upgrade failing equipment

Goal 4- Purchase/Remodel office space for processing and DNA in order to accommodate additional manpower

Goal 5- Fund On-Site Calibration Service for Mechanical Pipettes

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

The DNA section has purchased 20 Microsoft Office 2007 Licenses for all computer stations for the DNA section. The current version of Microsoft office the DNA section has been using is 1997. The new LIMS requires Microsoft Office 2007 for functionality. There has been no other activity on this grant since the laboratory is in the process of encumbering funds from the 2008 and 2009 awards since both grants should be closed out by March 31, 2011.

This concludes this report.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

There has been no activity on this grant since the laboratory is in the process of encumbering funds from the 2009 award since the grant should be closed out by September 30, 2011. The following goals are being worked on at this time.

Goal 1 - At this time, the laboratory has determined that a contractor will not be needed to help in the in-house customization of the LIMS system. It is undetermined if during implementation of the batching module, which is scheduled for release the last quarter of 2011, a contractor will be needed. During the implementation of the batching module, if the laboratory seeks a contractor grant funds will be used for this project. If it is determined a contractor will not be needed, in order to repurpose the funds, a GAN will be submitted.

Goal 2 - The Laboratory has sent a request to upper management to send two DNA analysts to the 2011 Promega Human Identification Symposium to be held in Maryland in October of 2011. A request to send two analyst to the AAFS meeting will occur in the first quarter of 2012.

Goal 3 - The laboratory is currently working with the IT department on specifications and purchase of the computer monitors.

Goal 4 - The Laboratory is evaluating if funds should be redirected to another project or if goal number 4 should be completed. The laboratory is also considering upgrading the 3130 4 capillary

to a 16 capillary. Depending on workflow one or both may be needed.

Goal 5 - The laboratory is in the process of acquiring a sole source agreement and quote for the purchase of the 9700 PCR amplification system. Depending on workflow, a second 9700 PCR amplification system may also be needed.

Goal 6 - Money from the 2008 grant was repurposed for this project. We are evaluating a laser micro-dissection microscope in place of the HVAC system in order to increase throughput of sexual assault cases

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

There has been little activity on this grant since the laboratory is in the process of encumbering funds from the 2009 award scheduled for close out on February 29, 2012. Since all goals have now been met for the 2009 award, the laboratory's primary focus for report period 4 will be encumbering funds for this award. GAN(s) will be submitted in the near future to reflect the necessary changes for this award.

Goal 1 - At this time, the laboratory has determined that a contractor will not be needed to help in the in-house customization of the LIMS system. It is undetermined if during implementation of the batching module, which is scheduled for release the first quarter of 2012, a contractor will be needed. During the implementation of the batching module, if the laboratory seeks a contractor, grant funds will be used for this project.

Goal 2 - Two DNA analysts attended the 2011 Promega Human Identification Symposium in Maryland in October of 2011. The Laboratory has sent a request to upper management to send two DNA analysts to the 11th Annual Advanced DNA Technical workshop to be held in Orlando, FL in May 2012.

Goal 3 – The purchase of the computer monitors was fulfilled using funds from the 2009 grant.

Goal 4 - The Laboratory is evaluating if funds should be redirected to another project or if goal number 4 should be completed.

Goal 5 – The purchase of a new 9700 PCR amplification system was fulfilled using funds from the 2009 grant.

Goal 6 - Money from the 2008 grant was re-purposed for this project. We are evaluating a laser micro-dissection microscope in place of the HVAC system in order to increase throughput of sexual assault cases

PROGRESS REPORT 4: January 1, 2012 – June 30, 2012

There has been little activity on this grant since the laboratory was in the process of encumbering funds from the 2009 award, which closed on March 31, 2012. After evaluating the needs of the laboratory, it was determined that the original goals need to be adjusted. Therefore, a Change of Scope GAN has been submitted to reflect the following changes. A Budget GAN will also be submitted in the near future to reflect the necessary changes for this award.

Goal No. 1: Customization and Implementation of a new LIMS – This continues to be a goal of the laboratory. At this time, the laboratory has determined that a contractor will not be needed to help in the in-house customization of the LIMS system. It is undetermined if during implementation of the batching module, which is now scheduled for release the third or fourth quarter of 2012, a contractor will be needed. During the implementation of the batching module, if the laboratory seeks a contractor, grant funds will be used for this project.

Goal No. 2: External Training for DNA analysts – This continues to be a goal of the laboratory. Two DNA analysts attended the 2011 Promega Human Identification Symposium in Maryland in October of 2011. Two DNA analysts attended the 11th Annual Advanced DNA Technical workshop in Orlando, FL in May 2012. The Laboratory has sent a request to upper management to send two DNA analysts to the Southern Association of Forensic Scientists 2012 Annual Fall meeting to be held in Pensacola, FL in the fall.

Goal No. 3: Acquire computer monitors for each workstation – This continues to be a goal of the laboratory.

With the implementation of a new LIMS system, it is the goal of the laboratory to become paperless. Using funds from the 2009 DNA Backlog Reduction Grant, all DNA analysts' workstations were equipped with dual monitors to help achieve this goal. However, DNA processing analysts' workstations have not been equipped at this time and funds from this grant will be utilized to achieve this goal.

Goal No. 4: Acquire an eight capillary Genetic Analyzer - After evaluating the current needs, the Laboratory has decided not to purchase an eight-capillary Genetic Analyzer. Using funds from the 2009 DNA Backlog Reduction Grant, the laboratory was able to upgrade the four-capillary genetic analyzer to a sixteen-capillary genetic analyzer. The laboratory currently has two sixteen-capillary genetic analyzers, which are able to handle current casework capacity.

Goal No. 5: Purchase a new 9700 PCR amplification system - This goal was accomplished using funds from the 2009 DNA Backlog Reduction Grant.

Goal No. 6: Upgrading the HVAC system - This goal was accomplished using funds from the 2008 DNA Backlog Reduction Grant.

New Goal: Replace/Upgrade failing equipment - The laboratory needs to replace/upgrade equipment used for processing and analyzing DNA evidence. Some of the new equipment to be purchased includes an alternate light source, drying chamber, infrared camera, lighting for the evidence processing garage, pipettes, microscopes and microscope cameras. This new/improved equipment will help streamline the DNA testing process.

New Goal: Purchase Document Control Software - The laboratory is currently in the process of becoming ISO 17025 accredited. This software will be used for electronic document control and for DNA workflow process management.

PROGRESS REPORT 5: July 1, 2012 – December 31, 2012

During this period, there has been a great deal of activity on this grant to expend the current funds.

Goal No. 1: Customization and Implementation of a new LIMS – This continues to be a goal of the laboratory however it will not be completed during this award period. Unfortunately, the laboratory cannot proceed any further on this project until the company fulfills its obligations. This goal will therefore be moved to the 2011 grant.

The funds will be repurposed for additional laboratory equipment. Since space is an issue in the laboratory, a small footprint sterilization oven and autoclave will be purchased to replace the large older models. A new storage refrigerator is also needed for DNA amplification products. Since contamination is always a concern in a DNA laboratory, the section is looking to purchase new chairs and stools of a material that would allow decontamination to replace the cloth ones. To assist analysts in sample set-up time, the laboratory is looking to purchase a Tube Writer 360 which will label all sample tubes and plates utilized in the DNA testing process.

Per the FBI Quality Assurance Standards, mechanical pipettes must be calibrated annually. Therefore, the DNA section will utilize funds from this grant to cover the cost of an on-site calibration service. Appropriate GAN(s) are being written and will be submitted soon to reflect these changes.

Goal No. 2: External Training for DNA analysts – This goal has been met. Two DNA analysts attended the 2011 Promega Human Identification Symposium in Maryland in October of 2011. Two DNA analysts attended the 11th Annual Advanced DNA Technical workshop in Orlando, FL in May 2012. A DNA analyst attended the Southern Association of Forensic Scientists 2012 Annual Fall meeting in Pensacola, FL in September 2012.

Goal No. 3: Acquire computer monitors for each workstation – This goal has been met.

Goal No. 4: Replace/Upgrade failing equipment – This goal has almost been met. Some of the new equipment which has been purchased includes an alternate light source, refrigerator, drying chamber, biosafety hood, water bath with thermometer stand, digital heat blocks, pipettes, and a new microscope with objectives. The microscope cameras have been submitted to the purchasing department and are awaiting approval.

Goal No. 5: Purchase Document Control Software – The purchase is in the final stages and is awaiting approval from the State Purchasing Division.

PROGRESS REPORT 6: January 1, 2013 – June 30, 2013

During this period, there has been a great deal of activity on this grant to expend the current funds. This grant is on schedule to be finalized by September 30, 2013.

Goal 1 - Training of DNA analysts: The final cost of the microscope cameras was half the budgeted cost. Therefore, a GAN has been submitted to repurpose some of the funds to send one analyst to the BODE Mid-Atlantic DNA technical conference in Charlottesville, VA, September 23-26.

Goal 2 - Acquire computer monitors for each workstation: With the addition of Goal 4, the laboratory has placed an order for additional desktop computers and monitors to accommodate the remodeling of office space for additional manpower.

Goal 3 - Replace/Upgrade failing equipment: All equipment has been purchased and the majority has been received. The Tube Writer is currently at the State level and we are awaiting approval. The microscope cameras have been approved and purchased. Since the final cost of the microscope cameras was half the budgeted cost, a GAN has been submitted to repurpose some of the funds. The funds will be used to purchase a large drying cabinet for the processing garage to accommodate bulk items. Various tools will be purchased to aid in the processing of vehicles for biological fluids. Qiagen has developed a flip-cap rack for the EZ1 Advanced XL robot which will be purchased to allow consumable flexibility. Once GAN approval has been received, these purchases will be made.

Goal 4- Purchase/Remodel office space for processing and DNA in order to accommodate additional employees: Processing has placed the order for furniture needed to remodel their office area. DNA has purchased shelving for case file storage and is awaiting the final quote from the company regarding the remodeling of office space.

Goal 5- Fund On-Site Calibration Service for Mechanical Pipettes: This goal has been completed.

PROGRESS REPORT 7: July 1, 2013 – September 30, 2013

Goal 1 - Training of DNA analysts: An analyst attended the BODE Mid-Atlantic DNA technical conference in Charlottesville, VA, September 23-26, thus completing this goal.

Goal 2 - Acquire computer monitors for each workstation: This goal was completed.

Goal 3 - Replace/Upgrade failing equipment: This goal was completed

Goal 4- Purchase/Remodel office space for processing and DNA in order to accommodate additional employees: This goal was completed.

Goal 5- Fund On-Site Calibration Service for Mechanical Pipettes: This goal has been completed.

FINAL REPORT:

During the award period, the laboratory was able to decrease the average number of days between the submission of a sample to the laboratory and the delivery of test results to the agency by 63%. The laboratory was also able to decrease the number of backlogged forensic DNA cases by 33%. These results can only be attributed to the availability of funds that were used for various projects within the laboratory.

Over the course of the award, the goals and objectives were adjusted for reasons such as encumbering funds on previous grants as well as changes within the laboratory. The following goals were able to be met as a result of available funding.

Goal 1: Training of DNA Analysts – Six (6) analysts were able to receive continuing education during the duration of the award. Two analysts attended the 2011 International Symposium on Human Identification in National Harbor, MD. Two analysts attended the 2012 BODE Annual Advanced DNA Technical Workshop in Orlando, FL. One analyst attended the 2012 Southern Association of Forensic Scientists meeting in Pensacola, FL and one analyst attended the 2013 BODE 2nd Annual Advanced DNA Technical Workshop in Charlottesville, VA. At each of these meetings, the analysts attended scientific sessions, workshops for continuing education and visited vendor booths. The laboratory was also able to purchase several books to update and add to the reference material library as well as pay for a year's subscription to Forensic Science International: Genetics journal.

Goal 2: Acquire Computer Monitors for each Workstation – The laboratory was able to use funds to purchase a total of 6 desktop computers, 23 computer monitors and 5 dual monitor stands. The desktop computers, monitors and monitor stands equipped the DNA processing analysts' workstations with dual monitors to prepare for the implementation of the new LIMS system in which the laboratory will become paperless. Some of the monitors purchased were also used to replace failing ones. The laboratory was also able to use funds to purchase tablet PCs for the DNA processing analysts. These tablets are used to capture drawings and findings during the processing of evidence for biological fluids and are another step towards making the laboratory paperless.

Goal 3: Replace/Upgrade Failing Equipment – Various equipment was purchased using the funds from this award to replace, upgrade or enhance the equipment within the laboratory. Some of the items purchased to replace failing equipment were a refrigerator for chemical storage, water bath and thermometer rack, two digital heat blocks, microscope objectives and cameras, autoclave, refrigerator for evidence storage, and a sterilization oven. The laboratory also purchased an alternate light source, two drying chambers, two pipettes, and vehicle tools to aid in the processing of evidence for biological fluids. A new biosafety hood was purchased for spotting blood of convicted offender samples, and a new microscope was purchased to accommodate analysts working sexual assault cases. In an effort to decrease possible

contamination the laboratory purchased wipe able stools and chairs as well as a UV crosslinker. A rack was purchased for the EZ1 Advanced XL instrument to accommodate flip-cap tubes, and a Tube Writer has decreased sample tube preparation time as well as label sample tubes clearly.

Goal 4: Purchase/Remodel Office Space – The laboratory was able to use funds to remodel the office space in order to accommodate two additional analysts as well as purchase shelving for case file storage. The Processing department was also able to replace/remodel their office area.

Goal 5: Purchase Quality Control Software – With funds from this grant, the laboratory was able to purchase the document control software Qualtrax along with a maintenance agreement. This software will allow us to meet certain ISO 17025 standards by allowing only current documents to be viewed. Training modules and tests can be performed within the software as well. The standards for both QAS and ISO 17025 can be imported and linked to the procedures to show compliance making audit preparation less time consuming.

Goal 6: Fund On-Site Calibration Service for Mechanical Pipettes - The laboratory was able to fund two years of calibration services from an ISO 17025 certified company for the mechanical pipettes. The laboratory was also able to use funds to send two thermocycler temperature verification units out for calibration as well as for an emergency maintenance on the 7500 Real-Time PCR instrument. A used 7500 Real-time PCR instrument was obtained from Massachusetts State Police and the laboratory was able to have the instrument shipped using funds from this grant.

FY10 Recipient Name: Wyoming Office of the Attorney General

Award Number: 2010-DN-BX-K160

Award Amount: \$150,000

Final Report:

GOALS AND OBJECTIVES OF PROJECT:

The following goals and objectives were set for this award:

1) Reduce the DNA casework backlog

Objective A: Use overtime for existing staff

Objective B: Purchase necessary supplies

2) Increase the DNA analysis capacity at the WSCL

Objective A: Use overtime for staff to do validation projects

Note – more specific objectives should be listed for this goal

PROGRESS REPORT 1: October 1, 2010 – December 31, 2010

Goal #1: This goal is still pending.

During this period, the WSCL has devoted 19 overtime hours to casework DNA analysis towards reducing the backlog. Work on seven cases has been funded through this grant.

The acquisition of necessary supplies is beginning.

Goal #2: This goal is still pending.

PROGRESS REPORT 2: January 1, 2011 – June 30, 2011

Goal #1: This goal is still pending

During this period, the WSCL has devoted 200 overtime hours to casework DNA analysis towards reducing the backlog. Work on 43 cases has been funded through this grant this period.

The acquisition of necessary supplies is continuing.

Goal #2: This goal is still pending

During this period, the WSCL has devoted 46 overtime hours to validating new processes to increase analysis capacity. Validation of a Qiagility robot for use with quantitation of casework samples, and the validation of VSD punchers for Offender samples are examples.

PROGRESS REPORT 3: July 1, 2011 – December 31, 2011

Goal #1: This goal is still pending

During this period, the WSCL has devoted approximately 235 overtime hours to casework DNA analysis towards reducing the backlog. Work on 48 cases has been funded through this grant this period.

The acquisition of necessary supplies is continuing.

Goal #2: This goal is complete

During this period, the WSCL has devoted 10 overtime hours to validating new processes to increase analysis capacity.

During this period, the WSCL completed validating new processes to increase analysis capacity.

Validation of a Qiagility robot for use with quantitation of casework samples is complete.

The validation of AB Identifiler Plus kits for use with casework and offender samples is complete.

The validation of the AB 3500 genetic analyzer for use with offender samples is complete.

The validation of the BSD punchers for use with offender samples is complete.

FINAL REPORT:

Goal #1: This goal is complete

During this entire grant period, the WSCL has devoted approximately 454 overtime hours to casework DNA analysis towards reducing the backlog. Work on 98 cases has been funded through this grant.

The acquisition of necessary supplies is complete.

Goal #2: This goal is complete

During this entire grant period, the WSCL has devoted 56 overtime hours to validating new processes to increase analysis capacity.

During this period, the WSCL completed validating new processes to increase analysis capacity.

Validation of a Qiagility robot for use with quantitation of casework samples is complete.

The validation of AB Identifiler Plus kits for use with casework and offender samples is complete.

The validation of the AB 3500 genetic analyzer for use with offender samples is complete.

The validation of the BSD punchers for use with offender samples is complete.
