

## DATABASING EFFORTS IN ALABAMA – PAST AND PRESENT

Roger Morrison

*Alabama Department of Forensic Sciences*



Alabama's DNA Database Law (94-804) was enacted May 6, 1994. This law empowered the Alabama Department of Forensic Sciences to collect DNA samples from all convicted felons and those convicted of sex related misdemeanors. The law authorized the Department of Forensic Sciences to perform DNA analysis on these samples, to create a DNA database, and provided a source of funding for these endeavors.

Sample collection began in 1994 and was initially targeted at those entering or exiting prison and those seeking a pardon or restoration of rights. Since then the sample collection process has been expanded to include all individuals within the prison system and those which are in the probation and parole system.

Because ADFS was not set up for high volume DNA database analysis, the initial influx of samples were outsourced to a private laboratory. Contracts for DNA analysis went from October 1994 through September 1997, although the bulk of sample analysis occurred in 1995 and 1996. The samples were divided into three priority groups. Group I was to be typed by three RFLP probes and three STR markers (CTT). Group II was to be typed by the three STR markers (CTT). And Group III was to be initially held and then typed at a later date. During this period of time approximately 14,000 samples were typed for the STR markers CTT. Of those samples, approximately 4,000 samples also had a three probe RFLP type. The RFLP data was never utilized. Instead the focus was placed on the CTT data.

During this period of time (1995-97) Alabama proclaimed its "leadership" role in STR analysis of database samples. But a database compiled only of CTT results has obvious problems. Given the DNA discrimination of the STR markers CTT, searching a database of several thousand samples result in "hits", many "hits". These "hits" were then resolved by pulling the samples and conducting D1S80, DQ and PM analysis. This of course is a very time-consuming and labor intensive process. Because of this, most forensic unknowns were only searched once and were not re-searched as additional samples were added to the database. The net result was that the actual number of case to offender database hits was far below the administration's expectations.

In 1997 ADFS had the equipment and staff to take over the database analysis duties. Beginning in January 1998, we went from CTT analysis to the eight STR loci in PowerPlex™1.1. The use of PowerPlex™1.1 significantly increased the discrimination capabilities and as a result makes the search function much more efficient. But there still remained the approximately 14,000 samples, which only had CTT data and the resultant, many "hits" that occurred during a search. These "hits" are now resolved by PowerPlex™1.1 and the data files upgraded to PowerPlex™1.1. Currently there are approximately 15,750 samples in the database with PowerPlex™1.1 data and approximately 11,650 samples in the database with CTT data only. As the CTT data samples are upgraded to PowerPlex™1.1, case to offender database searches will be much more efficient and re-searching the database as additional samples are processed will become just a computer function and not the time consuming labor intensive chore of the past. Sometime in early 2000 PowerPlex™2.1 will also be run on all database samples. At that point all new entries in the database will have PowerPlex™1.1 and 2.1 (includes the 13 core STR loci). All old database samples will be upgraded accordingly. This is a sizable and expensive task but essential. Alabama will then have the DNA discrimination capabilities to utilize a database in the manner it was originally envisioned and designed. At that point we can also begin to address the 40,000+ samples which have been collected but have received no DNA analysis.

These technical improvements to the Alabama offender database will make searches much more efficient and should result in more "real hits" over a period of time. But that is only part of the problem. Large amounts of resources (personnel and monetary) have gone into the creation, re-creation, and re-re-

creation of the Alabama offender database. This emphasis of resources on the database meant a less than equal emphasis on casework DNA analysis. In short, this has resulted in a large backlog of DNA cases. Forensic Scientists struggle to complete cases which are already set on court dockets. Forensic Scientists spend the majority of their time working DNA cases for which there is a known defendant, known standards and sufficient other evidence to set a court date. There is no need for a database search except in those relatively rare cases in which DNA excludes the defendant. A large part of the DNA case backlog is made up of the no suspect cases which need a database search and for which in fact the database was created. The value of a database is measured not only on its volume but also on the number of case search requests. To emphasize one without the other is folly.

Hopefully the lessons learned in Alabama will benefit others who have not yet started or are in the early phases of a state offender database.