



Criminalistics Section – 2007

B123 Using the Quality Assurance Standards for Forensic DNA Testing Laboratories to Distinguish the Unqualified Forensic DNA Experts From the Qualified Forensic DNA Experts

George J. Schiro, Jr., MS, Acadiana Criminalistics Laboratory, 5004 West Admiral Doyle Drive, New Iberia, LA 70560*

After attending this presentation, attendees will have learned how to distinguish unqualified forensic DNA experts from qualified forensic DNA experts by using the information in the "Quality Assurance Standards for Forensic DNA Testing Laboratories" and the Quality Assurance Audit Document for Forensic DNA and Convicted Offender DNA Databasing Laboratories.

This presentation will impact the forensic community and/or humanity by reducing the number of unqualified individuals who represent themselves as forensic DNA analysts in court.

The evolution of quality assurance standards for forensic DNA testing laboratories began in 1988 with the formation of the Technical Working Group on DNA Analysis Methods (TWGDAM). TWGDAM set about the daunting task of standardizing DNA technology among crime labs so that common controls and practices could be established. This standardization would allow crime labs to databank DNA data so that this information could then be shared by all crime labs. These efforts have resulted in the highly successful Combined DNA Index System (CODIS) database.

TWGDAM first published a set of guidelines on a quality assurance program for DNA analysis in 1991. This was followed by Congressional passage of the DNA Identification Act of 1994. This act established a panel of public and private sector experts in DNA analysis, law, and ethics. This panel, known as the DNA Advisory Board (DAB), was to evaluate current DNA quality practices. Using the TWGDAM guidelines as a starting point, the DAB established DNA quality assurance standards that replaced the TWGDAM guidelines. The DNA quality assurance standards must be met in order for public crime labs to receive federal funding and to participate in the National DNA Index System (NDIS). Private forensic DNA testing labs must also meet these standards to work outsourced samples from the public crime labs. In essence, the quality assurance standards have become the "industry standards" for DNA analysis.

In order to demonstrate compliance with the standards, forensic DNA laboratories must undergo an audit by an external agency at least once every two years. To meet this end and to standardize the audits for consistency, the FBI, with input from the Scientific Working Group on DNA Analytical Methods (SWGAM – formerly known as TWGDAM), developed a standardized audit document known as the "Quality Assurance Audit for Forensic DNA and Convicted Offender DNA Databasing Laboratories." While some critics have denigrated these standards as being "minimal," this audit document is 50 pages in length and contains over 200 standards and sub-standards with which forensic DNA analytical labs must comply.

While effective as an audit document, the Quality Assurance Audit for Forensic DNA and Convicted Offender DNA Databasing Laboratories also provides information that can be used in court by attorneys to help the judge decide if a proclaimed forensic DNA analytical expert is qualified to testify as an expert witness. Using this document as a starting point, the author has developed 68 questions and 27 discovery requests covering the areas of a DNA quality assurance program, lab organization and management, personnel qualifications, lab facilities, evidence control, validation studies, analytical procedures, equipment calibration and maintenance, reports, case review, proficiency testing, corrective actions, previous audits, lab safety, and subcontracting labs. Answers to these questions and responses to these discovery requests will indicate if the self-proclaimed forensic DNA expert and his or her lab can meet the standards that most public and private forensic DNA analysts and their labs routinely meet.

Quality, Standards, DNA