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November 1, 2005

Rep. Ellen Story
3rd Hampshire District
The Commonwealth of Massachusetts
Room 167 State House
Boston, MA 02133-1054

Re: Ben LaGuer

Representative Story,

Thank you for contacting in regard to Mr. LaGuer's case. I have had a chance to review many items associated with the case, including serology and chain of custody documents, reports issued by Cellmark Diagnostics and Forensic Science Associates (FSA), and raw testing data generated by FSA.

Based on the materials I have received to date it is my opinion that the accuracy and reliability of the DNA testing performed are highly questionable. I base this opinion on the following.

- 1) There is no indication of semen, sperm or epithelial cells associated with a male donor on either the vaginal or rectal samples. These findings contradict the alleged facts of the case, namely that the victim was raped repeatedly over a period of many hours.
- 2) The DNA testing performed in this case utilized the PCR (Polymerase Chain Reaction) methodology. This molecular biologic technique is extremely sensitive, yet this sensitivity is widely recognized as its own Achilles' heal since contamination events and false positive results occur on a regular basis. As proof of such problems, even FSA in connection with the testing at issue here reported the contamination of one of the evidentiary samples with the DNA of a laboratory employee.
- 3) The items of evidence evaluated and tested by Cellmark and FSA were originally collected and subjected to serologic analysis in the early 1980's, well before any appreciation of the special handling needs associated with PCR based DNA testing. One of those requirements is that evidentiary items (unknowns) not be processed or handled in the same time and space as reference samples or samples likely to contain DNA of known origins. Organizations such as the National Research Council and the FBI recognized the problem and helped to create

precautions, as outlined in their special reports on forensic DNA testing and laboratory protocols. In this case, chain of custody documents clearly indicate that this cardinal rule was indeed broken. Specifically, Mr. LaGuer's underwear was handled in the same time and space as other potentially probative evidentiary items. Perhaps just as important, the levels of DNA detected in the samples implicating Mr. LaGuer are entirely consistent with those seen during contamination events.

- 4) Given the above facts, it is my opinion that Mr. Blake of FSA, the DNA expert responsible for the testing, was derelict in his responsibility to warn the defense that the testing of evidentiary items collected in the early 1980's was fraught with danger, specifically that of false positive results. I see no such record of any warning. On the contrary it is clear that Cellmark and FSA were more than willing to approach the testing of such item in the absence of any review of the prior chain of custody.
- 5) Perhaps more important is the manner in which the evidentiary items from the case were ultimately tested. Testing was performed in three batches; the first consisting of only evidentiary items, the second consisting of evidentiary items that were "pooled" together and tested, and third the testing of reference samples associated with the victim and defendant.

The most alarming aspect of the testing here is that following a failure to detect any male contributors to the sample tested in the first round, Mr. Blake, in what can only be characterized as his apparent zeal to get a result, "pooled" or combined the remnants of numerous tested and untested samples together and subjected these items to further analysis.

A review of records in my possession indicates that many of the evidentiary samples added to these "pooled" samples were described in Mr. Blake's reports as "unspecified". In my attempts to determine the origins of these samples I agree with his term, "unspecified", since I too could not resolve the identity of these samples. In essence, following a failure to get a result that demonstrated a male contributor to any of the alleged sexual assault samples, Mr. Blake moved forward by retesting the remains of previously tested samples mixed together with untested samples of unknown origins. Given the state of the records, it is entirely possible that the "unspecified" samples added to these "pooled" samples came from Mr. LaGuer directly, perhaps being poorly labeled swabs and / or slides associated with the serologic testing of his underwear. It also possible that these "unspecified" samples came in contact with items belonging to Mr. LaGuer.

Regardless, the testing of samples of unknown origins in the context of mixing (pooling) the same samples with specimens of known origins can never be relied upon to give an accurate result upon which conclusions can be drawn. The mere fact that Mr. Blake performed the testing in this manner is cause for concern.

- 6) Over the last decade or so, the public has come to believe in the infallibility of DNA testing, a phenomenon frequently referred to as the CSI effect. And while many crimes have been rightfully solved using this technology, one must appreciate that those most able to spell out the weaknesses of such testing are the least likely to do so. It is highly improbable that any given forensic DNA laboratory will take it upon itself to contact its accrediting bodies or the press and state for the record how often they make mistakes. Nor are labs likely to submit manuscript describing the same. Neither is in their better interest.

To best understand the weaknesses associated with DNA testing we must rely upon the empirical, the occasions in which such deficiencies are revealed either by the press or internal review of a lab's documentation of such problems by a defense expert. A close look at either

reveals that indeed many instances of DNA testing errors have lead to the false conviction of individuals. The types of errors seen in these cases are typically of the human kind, individuals failing to understand the strengths, weaknesses and limitations of the test at hand. It is my opinion that we have encountered such a case here.

With many regards,

A handwritten signature in black ink, appearing to read 'Theodore D. Kessis'. The signature is fluid and cursive, with a prominent initial 'T' and a long, sweeping underline.

Dr. Theodore D. Kessis