

## MEMORANDUM

January 11, 1996    revised January 25, 1996

To:            The File  
cc:            T. Jeremy Gunn  
               Phil Golrick

From:         Tammi Long

Subject:       Review--Blakey's Linchpin: Dr. Guinn, Neutron Activation Analysis, and  
               the Single Bullet Theory

The referenced memorandum is an analysis of the Neutron Activation Analysis (NAA) procedures and results from the testing conducted by Dr. V.P. Guinn for the House Select Committee on Assassinations (HSCA). Wallace Milam studied Dr. Guinn's reports and HSCA testimony concerning NAA tests of bullets/fragments from the Kennedy assassination and wrote a critical analysis. In order to avoid being influenced by Mr. Milam's conclusions, I read Dr. Guinn's testimony before the HSCA and I studied the copies of the data he submitted to the committee for the HSCA report. Subsequently, I read Mr. Milam's critique.

First, Mr. Milam does not make reference to any records which are not now in the National Archives. He does reference other studies which Dr. Guinn published concerning his work with NAA and a preliminary study of Mannlicher-Carcano ammunition which Dr. Guinn conducted unofficially, at the request of a friend.

Second, I had concerns about the conclusions Dr. Guinn reached before reading the memorandum by Mr. Milam. I did not notice any significant mistakes in Mr. Milam's article, however, I had to take the scientific values given by both Dr. Guinn and Mr. Milam as correct because the formulae used to arrive at the values and standard deviations was not provided. Dr. Guinn admitted to the HSCA that he did not test the same samples that were tested in the FBI's initial NAA tests. (HSCA Vol. 1, 561.) However, he studied the data from the FBI tests and determined that they were consistent with his results even though the FBI tests were considered "inconclusive." (HSCA Vol. 1, 562.)

Dr. Guinn concluded that Mannlicher-Carcano bullets are unique as compared to other types of ammunition based on the amount of antimony contained in the lead part of the bullet. He also concluded that M-C bullets are unique from bullet to bullet, even from cartridges contained in the

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same lot. This means that the amounts of antimony, silver and copper differ markedly between bullets from the same box of ammunition. Dr. Guinn concluded in his reports and testified under oath that he could determine that the fragments which came from the limousine came from only 2 bullets. Mr. Milam questions whether a conclusive determination can be made because of the variation in the levels of antimony, silver and copper measured in the samples tested by Dr. Guinn. Additionally, Dr. Guinn performed only one series of tests for the fragments and he did not identify a control to measure variations and possible error. Mr. Milam has also argued that the levels of antimony, silver and copper are not homogenous throughout an individual bullet (because the M-C ammunition was made with recycled lead), therefore, it is not scientifically sound to conclude that there were only 2 bullets involved from the raw data presented.

Third, Mr. Milam's article does not indicate the existence of other assassination related material. Dr. Guinn personally conducted the testing and his testimony and conclusions are published in the HSCA record. Any other articles written by Dr. Guinn or his colleagues about NAA would be background scientific information and too attenuated from the body of assassination-related information.

The data and conclusions from Dr. Guinn's NAA study were published in the HSCA. The ARRB has no reason to pursue any further inquiry into records connected with Dr. Guinn's work.