

December 11, 1963

Mr. Herbert J. Miller  
Assistant Attorney General  
Criminal Division  
U. S. Department of Justice  
Washington 25, D. C.

Dear Mr. Miller:

Discussions have been held with various persons in your agency during the past few weeks regarding what additional light nuclear activation analysis might be able to shed upon the case of Mr. Kennedy's assassination. Within less than 24 hours of the assassination, we had effected verbally our assistance, and that of our laboratories experienced in obtaining criminalistics evidence by means of nuclear analytical techniques, to responsible officials in the FBI, Secret Service and Dallas police force. We believe it is not too late to outline what may yet be done.

First, had it been possible to examine by nuclear methods the paraffin casts from Oswald's hands and face before chemical tests were run on them, we feel sure that more useful information may have been obtained. It has been conceded for some time that present chemical tests are not entirely reliable and conclusive. However, that is beside the point now, in this particular case. It may be, nonetheless, that the chemical tests made on the paraffin casts, for gunpowder residues, did not ruin them for possible later examination by activation analysis for positive traces of antimony and barium (from the bullet primer), and possibly of lead and copper.

Earlier activation analysis work by our contractor, General Atomic, with revolvers and automatic pistols is now being extended to work with rifles. We would hope soon to have more details on whether the method will give useful information to distinguish between smoke deposits from revolvers and those from rifles -- by means of their distributions on the body of the person firing them, and by the levels of antimony and barium (and perhaps other elements) deposited. In the current study, we will also ascertain whether the usual chemical tests on paraffin casts preclude later meaningful examination by nuclear activation analysis. If the results are promising, we would then be happy to work with the appropriate agencies in examining the actual casts obtained on Oswald. The method will destroy that part of the sample analyzed, but does not require use of the entire cast -- just a portion of it.

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Second, should it be of value, it may be possible to determine by trace-element measurements whether the fatal bullets were of composition identical to that of the purportedly unfired shell found with the Italian rifle. If the same batch of ammunition was used in the sniper bullet fired at General Walker, the method might show a correlation in that case.

Third, there may be other pieces of physical evidence in the case, such as clothing or hair, that might lend themselves to characteristics by means of their trace-element levels.

Naturally, we do not wish to appear to be intruding in the investigation and we are not certain that our techniques can now give added useful information. On the other hand, we wish to indicate our eagerness to be of any possible help. Our work leads one to expect that the tremendous sensitivity of the activation analysis method is capable of providing useful information that may not be otherwise attainable. Should you wish us to be of assistance, our research contractor in the criminalistics work, General Atomic in San Diego, would carry out the measurements -- working directly with the appropriate government investigators and with proper safeguards regarding the physical evidence and information. The scientist in charge of this work at General Atomic is Dr. Vincent F. Guinn.

If you prefer, we can also provide experienced activation analysis services at a number of locations, including Oak Ridge, Tennessee and Texas A&M University.

We look forward to hearing from you in this matter.

Sincerely yours,

Paul C. Aebersold, Director  
Division of Isotopes Development

cc: G. T. Seaborg, Chairman, AEC  
S. G. English, AGMRD, AEC  
V. P. Guinn, AE

bcc: Maynard Pro, U.S. Treasury  
William J. Minsch, OCC, AEC  
William Lyon, ARML  
Richard Wainerdi, Texas A&M