



UNITED STATES DEPARTMENT OF JUSTICE  
FEDERAL BUREAU OF INVESTIGATION

Kennedy, John F. 4-1

WASHINGTON 25, D.C.

March 18, 1964

By Courier Service

Honorable J. Lee Rankin  
General Counsel  
The President's Commission  
200 Maryland Avenue, Northeast  
Washington, D. C. 20002

Dear Mr. Rankin:

During the course of discussion of neutron activation analyses between Mr. Melvin Eisenberg of your staff and Special Agent John F. Gallagher of this Bureau on March 16, 1964, Mr. Eisenberg requested the following information:

1. What are some items in common usage which contain barium? Some items that may include barium are: grease, ceramics, glass, paint, printing ink, paper, rubber, plastics, leather, cloth, pyrotechnics, oilcloth and linoleum, storage batteries, matches and cosmetics.
2. What are some items in common usage which contain antimony? Some items that may include antimony are: matches, type metal, lead alloys, paints and lacquers, pigments for oil and water colors, flameproof textiles, storage batteries, pyrotechnics, rubber, pharmaceutical preparations and calico.
3. What are some items in common usage which contain both barium and antimony? Barium and antimony may be found in the following items: printed paper and cloth, paint, storage batteries, rubber and matches, pyrotechnics and possibly other items.

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4. Would neutron activation analyses show if a bullet passed through the hole in the front of President Kennedy's shirt near the collar button area and also if a bullet passed through the material of his tie? Neutron activation is a sensitive analytical technique to determine elements present in a substance. During the course of the spectrographic examinations previously conducted of the fabric surrounding the hole in the front of the shirt, including the tie, no copper was found in excess of that present elsewhere in undamaged areas of the shirt and tie. Therefore, no copper was found which could be attributed to projectile fragments.

It is not felt that the increased sensitivity of neutron activation analyses would contribute substantially to the understanding of the origin of this hole and frayed area.

Sincerely yours,

*J. Edgar Hoover*