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(U) INTELLIGENCE LESSONS FROM EVENT 747

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A. F. Mullins  
Lawrence Livermore National Laboratory

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On September 22, 1979 a US Vela satellite recorded a signal over the South Atlantic that resembled the optical signature of a nuclear explosion. This paper summarizes the analyses done of this signal, the search for technical and collateral corroboration of its origin, and the lessons for the intelligence and policy communities offered by its handling within the US Government. (U)

In its earliest stages a nuclear explosion produces a brilliant flash of light. Within about a millisecond (ms), however, a shock wave is formed that is opaque to visible light, and the brilliant flash subsides. After a few more ms the expanding fireball cools enough to regain its transparency and a second, longer flash occurs. Since no other event is known that produces a double flash of this type, optical detectors (bhngmeters) have been used since the late 1960's aboard US satellites to search for nuclear explosions. (U)

The Vela signal labeled "Event 747" received attention at the highest levels because 1) it initially looked to all analysts like the signature of a nuclear explosion; 2) it took place in a region far from the test sites of any acknowledged nuclear weapons state; and 3) it was not accompanied by any public announcement of a nuclear test. Despite and others, no corroborating evidence was immediately forthcoming, and after knowledge of the event became public a definitive assessment became essential. A group chaired by Dr. Jack Ruina of MIT was impaneled to examine possible corroborating evidence and evaluate the possibility that an instrument malfunction or a natural phenomenon might have caused the signal. (S)

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but the Ruina Panel was not persuaded. PNL is presently working on a study of all signals received by the Vela in question, and it is still possible the issue will eventually be resolved. (S)

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Lawrence Livermore National Laboratory  
P.O. Box 808, Livermore, CA 94551-0808

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The search for convincing collateral evidence has not been successful.

Accurate assessment of Event 747 was made difficult by both intelligence collection and policy factors. Insufficient attention had been paid to the background against which signals were collected. This was true both for the technical community, which never fully analyzed non-nuclear Vela signals, and for the intelligence community, which failed to monitor South African maritime activities closely enough to confidently assess the nature of the activity observed around September 22nd. The matter was overclassified at the start, keeping some valuable research assets unused, and underclassified later on, causing the technical debate to take place in public and reducing the credibility of the findings. The use of an outside panel brought new prejudices and politics to the problem that may not have been fully understood by those involved and tended to polarize those within the community whose objectivity was then questioned. The lack of strong, authoritative central direction on proliferation intelligence prevented quiet, effective marshalling of all available assets and permitted the politicization of the analysis. Finally, the reaction of the policy community to a potentially uncomfortable set of findings generated reduced trust in intelligence professionals and resulted in a report by outsiders with less credibility in foreign and domestic opinion. (C)

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