To: The Secretary  
Through: S/S  
From: INR - George C. Denney, Jr.  
Subject: Chinese Nuclear Test May Have Been Failure.

Preliminary technical analysis of Communist China's seventh nuclear test, together with Peking's continuing silence about the event, suggests that the test could have been a failure.

Thermonuclear Material Present. The test, which took place on December 24 in the vicinity of the nuclear test site at Lop Nor, had an estimated yield of 10 kilotons. Preliminary debris sampling has shown that lithium deuteride, a thermonuclear (TN) fuel, was present in the device. The third, fifth, and sixth Chinese nuclear tests involved thermonuclear material, and their estimated yields were approximately 250 KT, 300 KT, and 3,000 KT, respectively.

Given the thermonuclear material content and other technical evidence, the low yield of the seventh device suggests that something may have gone wrong during the detonation, and that the Chinese may have expected a yield of at least several hundred kilotons. However, we cannot exclude the possibility that the device was a "mock-up" using some dummy components to replace the active materials, thus reducing the yield.

Chinese Silent on Detonation. On balance, we believe the test was a failure. Contrary to their usual practice of announcing nuclear tests with great fanfare, Peking has yet to mention the December 24 detonation. This silence strengthens the impression that the test may not have gone according to plan. The timing of the detonation, moreover, could suggest that more than a 10 kiloton blast.
may have been in the works. China had had only one nuclear test in 1967 prior to this one (compared to a total of three in 1966) and a spectacle to end another year of Cultural Revolution activity, to steal some of the USSR's 50th Anniversary thunder, and to pay further homage to Mao (December 26 was his birthday) would have been very much in the Peking style.

At any rate, further analysis of the test debris and forthcoming Chinese propaganda year-end reviews may shed more light on the purpose of the test and how Peking wants to portray it.