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May 18, 1974

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Harold F. Flank

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It was again attempted to collect the same total amount of cloud debris as on a full-scale effort by doubling the in-cloud gamma radiation exposures for the single F84G aircraft which replaced a pair.

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Only Red 1 and

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White 1 were able to increase their collection significantly over normal.

The periodicity of Red 1, White 1 and Blue 1 in having large samples relative to the other F84G aircraft is a reflection of the arc-like shape assumed by the cloud as a result of wind shear and the masking of the primary cloud material by natural water vapor cloud. The above three aircraft were successively vectored to the same side of the cloud and experienced less gamma radiation shine from cloud layers in which they were not flying than did the others. Because of the shape of the bomb cloud and the associated vapor cloud it was difficult to find a position for the control B-36 which was equally advantageous to all sampling aircraft.

Sanitized by NN-523
on 2/5/98

DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEW-DATE: 09-25-97	DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: OAC OADC OADD	1. CLASSIFICATION RETAINED
NAME: <i>[Signature]</i>	2. CLASSIFICATION CHANGED TO:
2ND REVIEW-DATE: 10-20-97	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: ADD	4. COORDINATE WITH:
NAME: <i>[Signature]</i>	5. CLASSIFICATION CANCELLED
	6. CLASSIFIED INFO BRACKETED
	7. OTHER (SPECIFY):

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Radiation intensities observed by the sampling aircraft were in general lower than those found on other shots at corresponding times after burst. The reason for this appears to be excessive wind shear at all sampling altitudes as well as the difficulty of finding primary cloud to fly within.

Study of the spectral distribution of gamma photons within the cloud was continued but the data have not been analysed.

TABLE 11.2-1

Sampling Results on ~~DELETED~~

<u>Code</u>	<u>Type Aircraft and Number</u>	<u>Ave. Cloud Penetration Time (Hours After Burst)</u>	<u>Total Fissions Collected</u>	<u>Total Fissions</u> DELETED
Red 1	F84G 037	2:10	DELETED	
Red 2	F84G 032	3:10		
White 1	F84G 051	3:20		
White 2	F84G 046	3:30		
Blue 1	F84G 048	3:35		
Blue 3	F84G 042	4:15		
Blue 4	F84G 043	4:15		
Floyd 1	FB-36 1086	4:00		
Wilson 1	WB-29 7343	3:10		
				DELETED

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